Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1234	palazoglu.in. or simunovic.in. or swartzel.in. or sandeep.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 11:35
L2	41	1 and magnet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 12:24
L3	2	("6776523").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/30 12:24
L4	16	("20020113066" | "2631242" | "3631720" | "3688295" | "3836827" | "4437882" | "4565455" | "4576781" | "4643588" | "5021981" | "5425819" | "5493100" | "5722317" | "5801630" | "5932813").PN. OR ("6776523"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/30 12:24
L5	25	("3465590" | "3520124" | "3774450" | "3888631" | "3946611" | "4003245" | "4120818").PN. OR ("4643588").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/30 12:30
L6	33515	first with second with magnet	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/30 12:30
L7	8331	6 and temperature	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/30 12:31
L8	1502	7 and adhesive	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/30 12:31
L9	212	7 and (adhesive with temperature)	US-PGPUB; USPAT; USOCR	OR	ON	2006/01/30 13:33
L10	6761	((324/204) or (324/228) or (374/176) or (374/141) or (374/161) or (374/166) or (374/163) or (219/385) or (209/127.2) or (209/128) or (209/130)). CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/30 13:35
L11	165	10 and detect$3 with particle	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 13:36

L12	11	10 and (magnet with positive with negative)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 13:37
L13	2	11 and 12	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 13:37
L14	2	10 and release with temperature with magnet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:04
L15	48	10 and release with temperature	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:04
L16	2	("6776523").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/30 13:53
L17	3	(("6536947") or ("6015231")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/30 14:03
L18	1410	((73/861.05) or (73/861.08) or (73/865.6)).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/01/30 14:04
L19	0	18 and 14	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:04
L20	0	18 and release with temperature with magnet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:04

L21	13	18 and release with temperature	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:06
L22	8	18 and magnet with temperature	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:09
L23	539	324/204.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:09
L24	118	23 and magnet and (heat or thermal or temperature)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/01/30 14:09

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SYSTEM:OS  - DIALOG OneSearch
  File   2:INSPEC 1898-2006/Jan W2
         (c) 2006 Institution of Electrical Engineers
*File   2: Archive data back to 1898 has been added to File 2.
  File   6:NTIS 1964-2006/Jan W3
         (c) 2006 NTIS, Intl Cpyrght All Rights Res
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  File  34:SciSearch(R) Cited Ref Sci 1990-2006/Jan W4
         (c) 2006 Inst for Sci Info
  File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
  File  35:Dissertation Abs Online 1861-2006/Jan
         (c) 2006 ProQuest Info&Learning
  File  65:Inside Conferences 1993-2006/Jan W5
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  File  94:JICST-EPlus 1985-2006/Nov W3
         (c)2006 Japan Science and Tech Corp(JST)
  File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Dec
         (c) 2006 The HW Wilson Co.
  File 144:Pascal 1973-2006/Jan W2
         (c) 2006 INIST/CNRS
  File 305:Analytical Abstracts 1980-2006/Jan W4
         (c) 2006 Royal Soc Chemistry
*File 305: Alert feature enhanced for multiple files, duplicate
removal, customized scheduling.  See HELP ALERT.
  File 315:ChemEng & Biotec Abs 1970-2005/Dec
         (c) 2005 DECHEMA
  File 350:Derwent WPIX 1963-2006/UD,UM &UP=200606
         (c) 2006  Thomson Derwent
*File 350: For more current information, include File 331 in your search.
Enter HELP NEWS 331 for details.
  File 347:JAPIO Nov 1976-2005/Sep(Updated 060103)
         (c) 2006 JPO & JAPIO
  File 344:Chinese Patents Abs Jan 1985-2006/Jan
         (c) 2006 European Patent Office
  File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.
*File 371: This file is not currently updating. The last update is 200209.
  File  23:CSA Technology Research Database 1963-2006/Jan
         (c) 2006 CSA.
  File 987:TULSA (Petroleum Abs) 1965-2006/Jan W1
         (c)2006 The University of Tulsa
*File 987: GR (Greece), IS (Iceland), SG (Singapore), and SI (Slovenia)
have been added to AC=.
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Set     Items   Description
S1         25   AU=(PALAZOGLU, T? OR PALAZOGLU T?)
S2         25   AU=(SIMUNOVIC, J? OR SIMUNOVIC J?)
S3        161   AU=(SWARTZEL, K? OR SWARTZEL K?)
S4        194   AU=(SANDEEP, K? OR SANDEEP K?)
S5        376   S1:S4
S6          6   S5 AND (MAGNET? OR (ONE OR FIRST OR TWO OR SECOND OR DUAL)-
              (2N)MAGNET?)
S7          6   RD  (unique items)
S8        370   S5 NOT S6
S9         15   S8 AND (THERMOL? OR THERMAL? OR PREHEAT? OR MELT? OR FUSE?
              OR FUSING? ? OR FUSION?)(2N)TREATMENT????
S10        12   RD  (unique items)
S11       355   S8 NOT S9
S12         5   S11 AND IC=(A23L-003/00 OR G01D-005/12 OR G01J-001/48 OR G-
              01J-009/00 OR G01K-001/00 OR G01K-001/06 OR G01K-013/02 OR G0-
              1L-009/14 OR G01N-019/10 OR G01K-007/36)
S13         5   RD  (unique items)
S14   4400252   MAGNET? OR (ONE OR FIRST OR TWO OR SECOND OR DUAL)(2N)MAGN-
              ET?
S15    155492   (THERMOL? OR THERMAL? OR PREHEAT? OR MELT? OR FUSE? OR FUS-
              ING? ? OR FUSION?)(2N)TREATMENT????
S16   9513561   ADHESIVE? ? OR ADHERE??? OR ATTACH??????? OR SECUR??????? -
              OR CONNECT???????? OR STICK???????? OR SEAL????????
S17    254915   POLARIT? OR (POSITIVE OR NEGATIVE)(2N)POLE? ?
S18    793497   TEMPERATURE???(2N)(MONITOR????? OR MEASUR???????? OR TEST?-
              ??????? OR CHECK???? OR EXAMIN????? OR DETECT???????? OR SENS-
              ????????)
S19     11839   (TEMPERATURE???? OR MAGNET?)(2N)RELEAS??????
S20    334174   CHANG?(2N)(MAGNETIC OR FIELD? ?) OR (ONE OR FIRST OR TWO OR
               SECOND OR DUAL)(2N)(MAGNETIC? OR FIELD? ?)
S21    241296   MAGNET?(2N)DETECT? OR (MONITOR????? OR MEASUR???????? OR T-
              EST???????? OR CHECK???? OR EXAMIN????? OR DETECT???????? OR -
              SENS????????)(2N)PARTICLE? ?
S22     13713   IC=(A23L-003/00 OR G01D-005/12 OR G01J-001/48 OR G01J-009/-
              00 OR G01K-001/00 OR G01K-001/06 OR G01K-013/02 OR G01L-009/14
               OR G01N-019/10 OR G01K-007/36)
S23     17003   CONTINUOUS(2N)STREAM???? OR (BATCH??? OR STREAM????)(2N)MA-
              TERIAL? ?
S24     19001   FOOD(2N)(CONTAINER? ? OR BOX OR CASE? ?)
S25      9620   S14 AND S15
S26       457   S25 AND S16
S27         2   S26 AND S17
S28         2   RD  (unique items)
S29       455   S26 NOT S27
S30         9   S29 AND S18
S31         9   RD  (unique items)
S32       446   S29 NOT S31
S33         1   S32 AND S19
S34       445   S32 NOT S33
S35        18   S34 AND S20
S36         0   S35 AND S21
S37         0   S35 AND S22
S38         0   S35 AND S23
S39         0   S35 AND S24
S40        16   RD S35  (unique items)
S41       427   S34 NOT S35
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S42	8	S41 AND S21
S43	5	RD (unique items)
S44	419	S41 NOT S42
S45	1	S44 AND S22
S46	418	S44 NOT S45
S47	0	S46 AND S23
S48	0	S46 AND S24
S49	320	S22 AND S21
S50	2	S49 AND S19
S51	2	RD (unique items)
S52	318	S49 NOT S50
S53	69	S52 AND S20
S54	0	S53 AND S15
S55	69	S53 AND S14
S56	18	S55 AND S16
S57	18	RD (unique items)
S58	0	S57 AND S17
S59	3	S57 AND S18
S60	15	S57 NOT S59
S61	15	S60 AND S20
S62	32	S15 AND S19
S63	1	S62 AND S17
S64	31	S62 NOT S63
S65	0	S64 AND S21
S66	0	S64 AND S23
S67	0	S64 AND S24
S68	0	S64 AND S22
S69	5	S64 AND S16
S70	5	RD (unique items)
S71	26	S64 NOT S69
S72	2	S71 AND S14
S73	583	S14 AND S23
S74	4	S73 AND S15
S75	4	RD (unique items)
S76	61432	S14 AND S18
S77	258	S76 AND S15
S78	1	S77 AND S17
S79	257	S77 NOT S78
S80	257	S79 AND S18
S81	0	S80 AND S19
S82	15	S80 AND S20
S83	0	S82 AND S21
S84	0	S82 AND S22
S85	11	RD S82 (unique items)

31/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

04580626 INSPEC Abstract Number: A90048151
Title: Effect of structural relaxation on Curie temperature and **magnetostriction** investigated by **magnetoelastic** waves in Metglas
Author(s): Lanotte, L.; Luponio, C.; Porreca, F.
Author Affiliation: Dipartimento di Sci. Fisiche, Napoli Univ., Italy
Journal: Nuovo Cimento D vol.11D, ser.1, no.12 p.1763-72
Publication Date: Dec. 1989 Country of Publication: Italy
CODEN: NIFDAV ISSN: 0392-6737
Language: English
Abstract: **Magnetoelastic** wave amplitude, A, was **measured** vs. the **temperature** during thermal cycles in Metglas 2826. When the Curie temperature, T/sub C/, has been reached, the A value vanishes due to the fall of the **magnetoelastic** coupling in the paramagnetic state. This allows evaluation of the T/sub C/ temperature. The latter increases after the iterated **thermal treatments** while the **magnetic** anisotropy K/sub u/ decreases. Also the A amplitude, **measured** at room **temperature** after the subsequent **thermal treatments**, shows an increasing behaviour. The values of K/sub u/, T/sub C/ and A approach saturation after the same number of thermal cycles; this suggests that the structural relaxation produced by annealing is the microscopic mechanism governing all the three physical quantities. In particular the authors explain the **connection** between K/sub u/ and A by means of the longitudinal **magnetostriction**.
Subfile: A

31/3,AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

0000200106 INSPEC Abstract Number: 1928A01054
Title: **Magnetostriction** of iron, nickel, cobalt and their alloys
Author(s): Schulze, A.
Journal: Zeitschrift fur Technische Physik 8 11 p.495-502
Publication Date: 1927 Country of Publication: Germany
Language: English
Abstract: The change in the length of ferromagnetic bodies accompanying their **magnetisation** is **measured** at ordinary **temperature** by fixing the movable plate of a condenser to the end of a rod of the material, 33 cm. long, 6 mm. diameter, and observing the change in the capacity by heterodyning with the aid of a Zickner differential condenser. Pure iron expands in fields of up to 70 gauss; the dilatation then decreases, crosses zero at 230 gauss and becomes negative. Nickel contracts more and more as the field intensity is increased; alloys of the two metals may expand or contract. The 15 alloys tested were prepared with 1 or 2% Mn to facilitate machining. The curves of **magnetostriction** have **two** expansion maxima, separated by a zero value for 30% Ni (non-**magnetic** alloy). Near 80% Ni the curves once more cross the zero line, and the striction becomes negative; both the maxima and minima are the higher, the stronger the field. Permalloy (78% Ni), which is very sensitive in its high permeability to mechanical stress, shows no **magnetostriction**, and the **magnetostriction** is, in the reversible region, independent of the **thermal treatment** . According to Arnold and Elmen, permalloy should slowly be cooled from

NOVELTY - A joining plate (40) **connects** the conducting wires (41,42) of a thermo-couple (35a) which **measures temperature** of heater or processing chamber (14), by thermoelectromotive force of thermo-couple.

USE - E.g. reduced pressure chemical vapor deposition (CVD) apparatus, batch-type vertical **thermal treatment** equipment, batch-type horizontal **thermal treatment** equipment for processing such as heat processing, film forming on substrate such as semiconductor wafer for manufacturing semiconductor integrated circuit (IC). Also for processing photomask, printed wiring board, liquid crystal panel, optical disk and **magnetic** disk.

ADVANTAGE - Enables **measuring** the **temperature** of heater or processing chamber precisely.

DESCRIPTION OF DRAWING(S) - The figure shows the sectional and perspective view of the thermometry edge of thermo-couple.

processing chamber (14)
thermo-couple (35a)
joining plate (40)
conducting wires (41,42)
pp; 12 DwgNo 2/6

31/3,AB/6 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013445669
WPI Acc No: 2000-617612/200059
XRPX Acc No: N00-457556
Gear for automatic control over process of **thermal treatment** of precast concrete products
Patent Assignee: MOSTOTREST STOCK CO (MOST-R)
Inventor: BAUKIN A A; BREICHER S I; CHALENKO V V; DUDAREV S V; GUGIN I M; KARPOV A V; KOROTIN V N; KURAKIN P P; LITVIN V K; STEFANOV A V
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
RU 2147987	C1	20000427	RU 99115610	A	19990715	200059	B

Priority Applications (No Type Date): RU 99115610 A 19990715
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RU 2147987	C1			B28B-011/24	

Abstract (Basic): RU 2147987 C1
Abstract (Basic):

NOVELTY - Gear for automatic control over process of **thermal treatment** of precast concrete products, mainly bridge beams, in steam curing chamber has **temperature-sensitive** transducers forming two independent control channels **connected** to inputs of temperature controls whose outputs are linked via switching units with **magnetic** starters to proper electric heaters. Each control channel includes at least seven **temperature-sensitive** transducers placed in points of beam most stressed thermally and ambient temperature transducer which are **connected** to inputs of proper programmable thermal control to feed controlling signals to three groups as minimum of heating elements in each channel installed correspondingly in sides and bottom of forms of curing chamber. Heating elements installed in sides heat forms of curing chamber by convective radiation method and heating elements installed in bottom heat forms by

convective contact method. Each control channel can be arranged in the form of three independent control subchannels to control temperature in center, right and left points of beam and in bottom of it. Gear for automatic control over process of **thermal treatment** of precast concrete products is equipped with monitor for visual control over process and/or printer for display of values of temperature.

USE - Construction industry.

ADVANTAGE - Increased quality of manufactured products. 3 cl, 2 dwg pp; 0 DwgNo 1/1

31/3,AB/7 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004055807
WPI Acc No: 1984-201348/198432
Related WPI Acc No: 1989-150622; 1990-101249
XRPX Acc No: N84-150463

Implantable hyperthermia device for treatment body tissue tumours - has power inductor for battery charging and ultrasonic link for transmission of monitored data control commands

Patent Assignee: RAMM ASSOC (RAMM-N); MARCHOSKY J A (MARC-I); RAMM ASSOCIATES (RAMM-N)
Inventor: ALEK R B; MARCHOSKY J A; MORAN C J; RUTLEDGE R E; MORAN C
Number of Countries: 015 Number of Patents: 017
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8402839	A	19840802	WO 84US70	A	19840117	198432	B
AU 8424915	A	19840815				198444	
SE 8404708	A	19840920				198448	
NL 8420017	A	19841203				198501	
EP 132276	A	19850130	EP 84900693	A	19840117	198505	
GB 2142831	A	19850130	GB 8423258	A	19840117	198505	
DE 3490016	T	19850207	DE 3490016	A	19840117	198507	
JP 60500483	W	19850411	JP 84500733	A	19840117	198521	
DK 8404494	A	19841121				198534	
GB 2142831	B	19870211				198706	
US 4719919	A	19880119	US 85697697	A	19850204	198805	
CA 1249759	A	19890207				198908	
IT 1173101	B	19870618				199008	
SE 461954	B	19900423				199019	
CH 673768	A	19900412				199020	
EP 132276	B	19910814				199133	
DK 169639	B	19950102	WO 84US70	A	19840117	199507	
			DK 844494	A	19840920		

Priority Applications (No Type Date): US 83459708 A 19830121; US 85697697 A 19850204
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8402839	A	E	48		
Designated States (National): AT AU CH DE DK GB JP LU NL SE					
Designated States (Regional): BE FR					
EP 132276	A	E			
Designated States (Regional): BE FR					
EP 132276	B				
Designated States (Regional): BE FR					
DK 169639	B			A61F-007/00	Previous Publ. patent DK 8404494

Abstract (Basic): WO 8402839 A

A system for controlled localised heating of internal body tissue such as tumours, includes a probe having an electrical heating element together with a thermistor **sensing** the **temperature** of that tissue being heated. Power for the heating element, and for the **temperature sensing** and control circuits, is drawn from a battery within the internal control unit (ICU) to which the probe is **connected** via hermetically **sealed connections**. Probe, **connector**, and ICU are all implanted beneath the patients skin with no external leads or **connections**.

By appropriately positioning an external control unit (ECU) the internal battery is charged by the **magnetic** coupling of external and internal power inductors close to the skin surface. Control monitoring data generated in the ICU is transmitted by ultrasonic transmitter/receiver link between ICU and ECU with external control being applied in the same way.

USE/ADVANTAGE - For the **connectionless** application of **thermal treatment** in the control of tumours including brain tumours.

Dwg.0/7

Abstract (Equivalent): EP 132276 B

System for generating heat in body tissue, such as in a cancerous tumor for therapy purposes, comprising electric heater means for generating heat in the -body tissue to be treated, a source of electrical energy **connected** to said heater means to generate heat, **temperature sensing** means positioned in the body and electrical **connection** means for **connection** respectively of the heater means and the **temperature sensing** means to a control unit and to said source of electrical energy, said control unit being adapted to control the energy applied to the heater means in dependence of the **temperature sensed** by the **temperature** condition is maintained, characterised in that it comprises a probe (12) consisting of an elongated member, one end portion of which is adapted to be positioned into the body tissue to be treated, said end portion comprising at least one electric heater element (34) and at least one **temperature sensing** element (36) located therein.

Abstract (Equivalent): GB 2142831 B

A totally implantable system to introduce heat into body tissue, comprising a probe having opposite ends for implanting in the flesh under the skin with one end extending into the body tissue to be heated, said probe including an elongated member constructed of heat conductive material and having a length to extend from adjacent to the surface of the skin at one end thereof to an opposite end located in the body tissue to be heated, said probe having at least one heater element located therein adjacent to said opposite end, means to select a predetermined temperature to beproduced in the body tissue to be heated including means to predeterminately energize the heater element to generate heat therein and in the body tissue to be heated sufficient to produce the selected predetermined temperature, said energizing means including a source of electric energy and means operatively **connecting** the energy source to the heater element to generate heat therein to produce the selected predetermined temperature in the body tissue to be heated, and electric circuit means for controllably applying energy from said energy source to the heater element to produce the desired predetermined temperature, said probe including at least one heat sensitive element located therein to be exposed to the temperature of the body tissue being heated and means operatively **connecting** the heat sensitive element to the electric circuit means, said energizing means, said electric circuit means, said means

06000531

TRANSFER TYPE **MAGNETIC** RECORDING MEDIUM AND ITS PRODUCTION

PUB. NO.: 10-283631 [JP 10283631 A]
PUBLISHED: October 23, 1998 (19981023)
INVENTOR(s): TAKAHASHI HARUYUKI
MAEYA TAKAO
APPLICANT(s): TOKYO JIKI INSATSU KK [366115] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-089031 [JP 9789031]
FILED: April 08, 1997 (19970408)

ABSTRACT

PROBLEM TO BE SOLVED: To execute a **thermal** hardening **treatment** in a roll form without the occurrence of blocking between a base body and an **adhesive** layer and to simultaneously and integrally form a **release** layer, **magnetic** layer and **adhesive** layer with one time of running of a coating machine by incorporating resin beads of fine grains having a particle size above the effective thickness of the **adhesive** layer into the **adhesive** layer.

SOLUTION: The release layer 2, the **magnetic** layer 3 and the **adhesive** layer 4 are successively laminated on the substrate 1. The resin beads 5 having grain size above the effective thickness of the **adhesive** layer 4 are incorporated into the **adhesive** layer 4. The particulates of a tetrafluoroethylene resin, silicone resin, etc., are used and the particles having low surface activity are selected. The grain size of the resin beads 5 is specified to the effective thickness t of the **adhesive** layer 4 or above and is regulated to the film thickness of the **magnetic** layer 3 or below because of the need for preventing the **adhesive** layer 4 from blocking to the substrate 1 during the **thermal** curing **treatment**, preventing the base sheet from being deformed by transfer and **sticking** at the time of production of the **magnetic** cards and for stably adhering the sheet at a thermal **adhesive** temperature

40/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

05063631 INSPEC Abstract Number: A9204-7580-002
Title: Heat treatment dependences of the ultrasound velocities in the Fe/sub 79/Cr/sub 6.6/B/sub 14.4/ metallic glasses produced in **magnetic** fields
Author(s): Kaczkowski, Z.; Kisdi-Koszo, E.; Potocky, L.
Author Affiliation: Polish Acad. of Sci., Inst. of Phys., Warsaw, Poland
Journal: Journal of Applied Physics vol.70, no.10, pt.2 p.5840-2
Publication Date: 15 Nov. 1991 Country of Publication: USA
CODEN: JAPIAU ISSN: 0021-8979
U.S. Copyright Clearance Center Code: 0021-8979/91/105840-03$03.00
Conference Title: Fifth Joint Magnetism and Magnetic Materials-Intermag Conference
Conference Sponsor: AIP; IEEE
Conference Date: 18-21 June 1991 Conference Location: Pittsburgh, PA, USA
Language: English
Abstract: The aim of the investigations was to determine the influence of the **magnetic** and **thermal treatments** and of the **magnetic** bias field on the ultrasound velocities c in Fe/sub 79/Cr/sub 6.6/B/sub 14.4/ metallic glass ribbons prepared in a longitudinal or transverse **magnetic** field. The values of c for the points near the demagnetization state and near the **magnetic** saturation were **changing** from about 4550-4600 m/s for as-cast state to 4700-4900 m/s after the last annealing at 360 degrees C. After the annealings between 280 and 350 degrees C the minimum values of c dropped to 4360 m/s and this phenomenon is **connected** with the Delta E effect and with increasing of the **magnetomechanical** coupling coefficient k with annealing (up to about 0.25 after annealing at 350 degrees C from k/sub m/=0.1 for as-cast state). This material may be useful in **magnetostrictive** delay line applications.
Subfile: A

40/3,AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

04845176 INSPEC Abstract Number: A91051283
Title: Towards a rigorous model for multifluid expansions of stellar coronae: application to the solar wind
Author(s): Fichtner, H.; Fahr, H.J.
Author Affiliation: Inst. fur Astrophys. und Extraterrestrische Forschung, Bonn University, West Germany
Journal: Astronomy and Astrophysics vol.241, no.1 p.187-96
Publication Date: Jan. 1991 Country of Publication: West Germany
CODEN: AAEJAF ISSN: 0004-6361
Language: English
Abstract: Extends the existing standard **magnetohydrodynamic** stellar wind models in two respects: First, the **treatment** of the **thermal** properties of electrons and protons is completed by numerical integration of two temperature equations describing for both constituents the components parallel and perpendicular to the **magnetic field** . **Second,** the authors separate the motion of electrons and protons by consideration of two corresponding momentum equations including mutual friction terms and the electric polarisation field due to the different

scale heights and expansion characteristics of the **two** species. The **field** -a generalisation of the Pannekoek-Rosseland field-represents the main interaction mechanisms between electrons and protons and enables a first quantitative investigation of the subsonic character of solar wind electrons and of recently postulated upwind/downwind asymmetries in the solar wind **connected** with these.
Subfile: A

40/3,AB/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

0000142278 INSPEC Abstract Number: 1911A01578
Title: The **magnetic** properties of some nickel steels, with some notes on the structure of meteoric iron [with correspondence]
Author(s): Colver-Glauert, E.; Hilpert, S.
Journal: Journal of the Iron and Steel Institute 83 p.375-411
Publication Date: 1911 Country of Publication: UK
Additional Citations: Zeitschrift fur Elektrochemie 17 750-761 1 Sept. 1911 Germany ; The Electrician 67 786-787 25 Aug. 1911 UK
Language: English
Abstract: The material tested consisted of commercial nickel steels with Ni-contents of 5.86, 24.32, and 32.9 per cent., carbon having the values 0.37, 0.24, 0.30 in the three respective cases. The following is the author's summary of conclusions: (1) A 5 per cent. Ni steel is hardest (**magnetically**) then quenched in the neighbourhood of 900(deg) C. Quenching from higher temperatures results in a softer material. (2) The changes which occur during the **thermal treatment** of a 25 per cont. Ni-Fe alloy are of a very complicated nature. At high temperatures there probably exists a product which may be preserved by rapid quenching, and is then strongly **magnetic**, and persists to the temperature of liquid air. This product does not exist in the region between about 600(deg) C. and 900(deg) C., but another which is also **magnetic**, can possibly occur at about 300(deg) C. There is no sharp **magnetic change** -point for this alloy below zero, but the permeability gradually increases as the temperature decreases from about -50(deg) C. to -180(deg) C. (3) The **magnetic** properties of a 33 per cent. Ni-Fe alloy are only very slightly affected by **thermal treatment**. Despite the "gamma iron structure" produced on this steel by the more general etching media, it is strongly **magnetic** and soft. (4) There is no **connection** between **magnetic** properties and microstructure. (5) There is no evidence that if gamma iron exists it is non-**magnetic**. (6) The microstructure of commercial Ni steel is practically the same as that of meteoric iron.
Subfile: A

40/3,AB/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03495598
E.I. Monthly No: EI9210128388
Title: **Magnetically** hard alloys of the Fe-Cr-Co-system. Universal materials for the rotors of hysteresis synchronous motors.
Author: Boruta, V. S.; Bintajkin, B. E.; Libman, M. A.; Potapov, N. N.
Source: Elektrichestvo n 2 Feb 1992 p 52-54
Publication Year: 1992

CODEN: 500010
Language: Russian
Abstract: New materials have been developed for the active part of rotors in hysteresis synchronous electric motors. The materials contain Cr (21-26 per cent,), Co (15 per cent) and are alloyed with insignificant amount (1-3 %) of molybdenum and titanium (26POM15 KMT) and vanadium and titanium (21 plus or minus 15 KZFT). High erzitive state of these alloys is being formed by two-stage **thermal treatment**: thermo-**magnetic** and additional **one**. For alloys developed physical and mechanical parameters have been defined (electric resistance, temperature coefficient of linear expansion, density, strength limit, relative extension). The forming of a high erzitive state is not **connected** with ductile deformation. This permits to get **magnetic** properties required in massive (with a diameter of 20-50 mm) rods or pipes (with a diameter of 20-500 mm) and with thickness 1.5-2.0 mm. 4 Refs. In Russian.

40/3,AB/5 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

01586448 Genuine Article#: HK377 Number of References: 19
Title: **MAGNETIC**-PROPERTIES AND METASTABILITY OF GREIGITE SYMTHITE MINERALIZATION IN BROWN-COAL BASINS OF THE KRUSNE HORY PIEDMONT, BOHEMIA (Abstract Available)
Author(s): KRS M; NOVAK F; KRSOVA M; PRUNER P; KOUKLIKOVA L; JANSA J
Corporate Source: GEOFYZ SC,GEOL 2/CS-15200 PRAGUE 5//CZECHOSLOVAKIA/; INST RAW MAT/CS-28403 KUTNA HORA//CZECHOSLOVAKIA/
Journal: PHYSICS OF THE EARTH AND PLANETARY INTERIORS, 1992, V70, N3-4 (MAR), P273-287
Language: ENGLISH Document Type: ARTICLE
Abstract: Finely dispersed forms of greigite or greigite-smythite mineralization were found in layers a hundred and more metres thick in the Miocene strata of the Krusne hory (Erzgebirge) Piedmont brown-coal basins. Under laboratory **thermal treatment**, a pronounced instability of greigite or greigite-smythite mineralization was revealed by the **magnetic** parameters, conditioned by mineralogical metastability. **Thermal treatment** in oxidation conditions caused the most pronounced **changes** in **magnetic** parameters in a temperature range of 320-380-degrees-C, in which a laboratory process of self-reversal of remanence was observed. The products obtained during **thermal treatment** were identified with the aid of X-ray diffractographs (Co-radiation, Fe-filter). When they were heated to 250-degrees-C, no substantial changes were found, while at 300-degrees-C the intensities of greigite became weaker, and pyrite and marcasite originated to its detriment. Hexagonal pyrrhotite was generated in addition to pyrite and marcasite. A total decomposition of bisulphides took place at temperatures above 400-degrees-C, accompanied by the formation of various modifications of Fe2O3, until finally at higher temperatures only alpha-Fe2O3 was formed.

Laboratory tests suggested self-reversal of remanence in relation to the formation of pyrrhotite. So far, greigite or greigite-smythite mineralization has been proven to exist in the Bohemian Massif solely in **connection** with Miocene rocks containing fossil micro-organic matter. Products of thermal alteration, pyrite, marcasite, pyrrhotite, gamma-, eta-, and alpha-Fe2O3 (or Fe3O4 depending on redox conditions) may be expected in rocks of similar genesis, but partly or completely carbonified as a result of a process of pyrolysis of the micro-organic matter.

40/3,AB/6 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

02496909 JICST ACCESSION NUMBER: 96A0584713 FILE SEGMENT: PreJICST-E
Photo-induced **magnetic** coupling in nickel nitroprusside.
GU Z (1); HASHIMOTO KAZUHITO (1); FUJISHIMA AKIRA (1); SATO OSAMU (2); IYODA TOMOKAZU (2)
(1) University of Tokyo, Faculty of English; (2) Kanagawa Acad. Sci. and Technol. Foundation (KAST)
Nippon Kagakkai Koen Yokoshu, 1996, VOL.70th,NO.2, PAGE.762
JOURNAL NUMBER: S0493AAY ISSN NO: 0285-7626
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
MEDIA TYPE: Printed Publication
ABSTRACT: Still underlying challenge in molecular devices is to establish controllable communication between different components in strongly-correlated molecular assemblies, which appeals many researchers. Main effort in this field was devoted to electrical communication, utilizing an itinerant character of Π conjugation systems. Here we introduce another valuable approach to the molecular communication and/or molecular memory devices by use of spin coupling in nickel nitroprusside, Ni Fe(CN)5NO 5.3H2O. A spin-spin interaction mediated by CN bridge is utilized as a carrier of information, instead of the conventional electrical **connection**. The spin coupling between neighboring paramagnetic centers, Ni2+, can be switched by Metal (Fe) to Ligand (NO) Charge Transfer (MLCT) induced by light illumination. That is, randomly aligned neighboring spins in Ni2+, can be ordered through MLCT and form **magnetic** clusters. This phenomenon can be repeated via a **thermal treatment** after illumination. The strategy described here might be useful for designing future molecular devices. Furthermore, it also provides a wholly new approach to construct optically tunable **magnetic** recording devices, **one** of the main goals of molecular-based **magnets**. (author abst.)

40/3,AB/7 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016222169
WPI Acc No: 2004-380057/200436
XRAM Acc No: C04-142975
XRPX Acc No: N04-302419
Toner for electrostatic image development, contains polyethylene wax as mold releasing agent having preset molecular weight distribution, and has endothermic peak and exothermic peak existing at preset temperature
Patent Assignee: TOSHIBA CHEM CORP (TOSM)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2004085829	A	20040318	JP 2002245816	A	20020826	200436	B

Priority Applications (No Type Date): JP 2002245816 A 20020826
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes

JP 2004085829 A 15 G03G-009/087

Abstract (Basic): JP 2004085829 A
Abstract (Basic):

NOVELTY - The toner is formed by heat processing a toner base particle (105) containing binder resin and coloring agent. The toner base particle contains polyethylene wax as mold releasing agent having molecular weight distribution of 1.05-1.20. The endothermic peak during temperature-rise and exothermic peak during temperature-fall of polyethylene wax, exists in the range of 60-110degreesC.

DETAILED DESCRIPTION - The toner is formed by heat-processing a toner base particle containing binder resin and coloring agent in a **thermal treatment** equipment equipped with toner base particle supply port and hot-air supply port. The toner base particle is heat-processed in the heat-processing space of **thermal treatment** equipment, with hot air of 80-350degreesC higher than the glass transition point of toner base particle, which is supplied from the hot-air supply port. The toner base particle contains polyethylene wax as mold releasing agent having molecular weight distribution of 1.05-1.20. The endothermic peak during temperature-rise and exothermic peak during temperature- fall of the polyethylene wax, exists in the range of 60-110degreesC, when measured by differential scanning calorimeter (DSC). An INDEPENDENT CLAIM is also included for image forming method, which involves developing the electrostatic image formed on electrostatic image carrier using the toner.

USE - For non-**magnetic one**-component image development system of image formation system using intermediate transfer medium (both claimed), such as copier, printer and facsimile.

ADVANTAGE - The toner has favorable fixing property and offset resistance. The toner does not form film on electrostatic image carrier and has favorable blocking resistance. The generation amount of waste toner during image formation process, is suppressed. Thus, favorable image is formed stably.

DESCRIPTION OF DRAWING(S) - The figure shows the **thermal treatment** equipment used for toner manufacture.

hot-air generator (101)
hot-air injection nozzle (103)
sample injection chamber (104)
toner base particle (105)
sample injection nozzle (108)
pp; 15 DwgNo 1/3

40/3,AB/8 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010131944
WPI Acc No: 1995-033195/199505
XRAM Acc No: C95-015151
XRPX Acc No: N95-026319
Improved silver halide photosensitive material - comprises charging layer(s) and silver halide photosensitive emulsion layer on two-axial drawn polyester support
Patent Assignee: FUJI PHOTO FILM CO LTD (FUJF)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 6317875	A	19941115	JP 93106979	A	19930507	199505	B

Priority Applications (No Type Date): JP 93106979 A 19930507
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 6317875 A 29 G03C-001/76

Abstract (Basic): JP 6317875 A

A silver halide photosensitive material has at least one charging layer and at least one silver halide photosensitive emulsion layer on a support. This support is made of two-axial drawn polyester. On the opposite side of the support as the emulsion layer, this photosensitive material has at least **one** transparent **magnetic** layer which has **magnetic** resistance of at least 400 oe. This layer contains a lubricant. This layer has surface extrusions which have an ave. height of 0.1 - 0.8 micron. The polyester support has a Tg of 90 - 200 deg.C. It has a film thickness of 60 - 122 micro. During formation of the film, specifically thermal fixation through winding processes, **thermal treatment** is done so that endothermic peaks appearing across the Tg may have a calorie of 100 - 1000 mcal/g.

Pref. the polyester used here is two-axial drawn polyethylene naphthalate. Pref. an **adhesive** layer which is mainly made of a gelatin as a binder is provided between the polyester support and a **magnetic** recording layer. This **adhesive** layer is 0.001 - 5 micro in thickness. Pref. the charging inhabitation layer contains a conductive metal oxide and/or an ionic polymer as a charging inhibitor so that the resistibility may be less than 1012 ohm cm at 25 deg.C and 10 %RH.

Dwg.0/12

40/3,AB/9 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010016410
WPI Acc No: 1994-284121/199435
XRPX Acc No: N94-223689
Device for medical **thermal** action **treatment** of patient - has movable generators to provide spatial change in loop radiators positions
Patent Assignee: MEDIPAK INNOVATION CO (MEDI-R)
Inventor: KIRIEVSKII L A; MEDINETS YU R
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
RU 2008950 C1 19940315 SU 4936657 A 19910516 199435 B

Priority Applications (No Type Date): SU 4936657 A 19910516
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
RU 2008950 C1 3 A61N-002/02

Abstract (Basic): RU 2008950 C

The device includes two generators (1,6) and two loop radiators made of sections (2,5,7,8) of a coaxial cable and shaped as sinusoidal curve periods.

The radiators form a spatial figure eight with apices **connected** to the generators (1,6). To provide alternating action of electric and **magnetic fields, one** of the loops is fitted with a gap. The generators (1,6) are made as movable devices.

USE/ADVANTAGE - In medical equipment used in oncology and tumour hyperthermia. Localisation of thermal action is claimed. Bul.5/15.3.94

Dwg.1/1

40/3,AB/10 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008446622
WPI Acc No: 1990-333622/199044
XRPX Acc No: N90-254964
Cassetted building materials **thermal treatment** regulator - has steam temperature sensor via measuring unit **connected** to second input of AND-gate
Patent Assignee: DNEPR ENG-CONS INST (DNEN-R)
Inventor: CHERNOV A T; IOG V I; KALACHEVA I B
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1556914	A	19900415	SU 4438789	A	19880608	199044	B

Priority Applications (No Type Date): SU 4438789 A 19880608

Abstract (Basic): SU 1556914 A
The appts. has steam and steam-air mixture temperature sensors (2,3) in a heat compartment, matching unit (6), AND-gate (8) and **two** **magnetic** starters (9,10). The steam-air mixture (removed from the cassette) temperature sensor (3) is **connected** to the input of the temperature monitor (4), whose first output is **connected** via the **first** **magnetic** starter (10) to an actuator (14) of gas-jet and air supply pump.
With the increase of the temperature of the steam, the resistance of the sensor (3) increases and a voltage at its output increases. When the temperature attains set threshold level, e.g. 80-90 deg.C a logic unity signal is formed at the output of the AND-gate (8), which is applied to the input of the starter (10).
USE/ADVANTAGE - In construction material industry, pref. assembly concrete plant. For automation the thermal processing of construction elements. Improved quality of regulation. Bul.14/15.4.90. (3pp Dwg.No.1/1

40/3,AB/11 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003715503
WPI Acc No: 1983-711686/198328
XRPX Acc No: N83-123536
Medium power transformer for mono-or poly-phase supply - has high and low voltage circuits for respective phases in **magnetic** circuit with electrical circuits within annular insulating housing
Patent Assignee: BEISSER J C (BEIS-I); SOC NOUV TRANSFIX (TRAN-N)
Inventor: BEISSER J
Number of Countries: 014 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8302194	A	19830623				198328	B
FR 2518306	A	19830617				198329	
EP 96058	A	19831221	EP 82903586	A	19821020	198351	
JP 58502174	W	19831215	JP 82500019	A	19821210	198405	

CA 1184621	A	19850326				198517
US 4588971	A	19860513	US 83527650	A	19830809	198622
EP 96058	B	19860910				198637
DE 3273248	G	19861016				198643
US 4651412	A	19870324	US 85718014	A	19850328	198714
IT 1149149	B	19861203				198840

Priority Applications (No Type Date): FR 8123146 A 19811211
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8302194	A	F	30		
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE GB LU NL SE					
EP 96058	A	F			
Designated States (Regional): AT BE CH DE GB IT LI LU NL SE					
EP 96058	B	F			
Designated States (Regional): AT BE CH DE GB IT LI LU NL SE					

Abstract (Basic): WO 8302194 A

The **magnetic** circuit consists of three rings (8) each having a conical face (7) contiguous with the corresp. faces of the others. The electrical circuits are arranged in e.g. plastics frames (11) having a central tubular section and an interior window through which the rings (8) project. The HV circuit (17) consists of turns of Cu or Al wire wound in rows separated by sheets of insulating paper.

The LV circuit comprises layers of AL wound around the HV circuit leaving an annular channel for liquid coolant. The circular window in each **magnetic** ring (8) is almost filled with two sets of electrical circuits (18) where the frames (11) have a circular profile.

3/20

Abstract (Equivalent): EP 96058 B

An electrical transformer comprising a **magnetic** circuit (8, 69) comprising at least **one** band of **magnetic** material wound into a ring defining at its centre a circular window (56) and for each phase, a high-voltage electrical circuit (17,73) and a low-voltage electrical circuit (18,74) both wound around one section at east of the **magnetic** circuit, characterised in that the electrical circuits are formed in at least one electrically insulating annular frame (11,72) which, in operation, is interposed between the electrical circuits (17,18,73,74) and the said section of the **magnetic** circuit (8,69) the frame having a profile which substantially coincides with a part of the circular profile of the window (56) of the **magnetic** circuit. (17pp)1

Abstract (Equivalent): US 4651412 A

The method comprises the steps of forming electric windings around at least two electrically insulating annular coil forms. The coil forms are **attached** to each other by adjacent edges of the forms. A suitably shaped thin strip of **magnetic** material is formed by a splitting process. Around a section of the coil forms at a location in which the coil forms are **attached** to each other the thin strip of **magnetic** material is wound while using the coil forms as a guide for winding so that the thin strip is wound through a centre of the annular coil forms.

The **magnetic** material is sheet metal. Before being wound on the coil form, the thin strip is wound on a circular mandrel and then the stresses in the thin strip are released by a **thermal treatment** of the thin strip when the thin strip is unwound from the mandrel.

ADVANTAGE - Ensures perfect insulation between electric and **magnetic** circuits. (13pp)

US 4588971 A

The transformer comprises a **magnetic** circuit (8) as well as in the case of each phase, a high-voltage electric circuit (17) and a low-voltage electric circuit (18) both wound around at least one section of the **magnetic** cirucit (8).

The electric circuits (17,18) are arranged in at least one electrically insulateing annular coil form (11) which, under service conditions, is interposed between the electric circuits (17,18) and the section of the magentic circuit (8).

In each coil form (11), between the high voltage electric circuit (17) and low-voltage electric cirucit (18), provision is made for an annular cooling duct (28) which communicates with the exterior of the coil form (11) through openings (31) formed in the wall (14) of this latter.

ADVANTAGE - Higher efficiency in spite of smaller overall size. Improves occupation of electric windows by **magnetic** circuit and of **magnetic** windows by electric circuit. (13pp)d

40/3,AB/12 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

01486929
TWO-LAYER COATED **MAGNETIC** RECORDING MEDIUM

PUB. NO.: 59-198529 [JP 59198529 A]
PUBLISHED: November 10, 1984 (19841110)
INVENTOR(s): NISHIMATSU MASAHARU
KUBOTA YUICHI
TAMASAKI KAZUNORI
IDE TOSHIAKI
SAITO YOSHIAKI
APPLICANT(s): TDK CORP [000306] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 58-072728 [JP 8372728]
FILED: April 25, 1983 (19830425)
JOURNAL: Section: P, Section Number 343, Volume 09, Number 64, Pg. 65, March 23, 1985 (19850323)

ABSTRACT

PURPOSE: To increase crosslinking density to a thermosetting resin and to provide adequate softness required for using a medium as a **magnetic** tape to a radiation sensitive resin by incorporating the thermoplastic resin in one or both layers of a binder, and using a rubber resin at 10-30pts.weight of the total resin amount

CONSTITUTION: The resin component subjected to radiation sensitive modification and a soft resin as well as the prepolymer, oligomer, and telomer thereof are combined and the binder formed by irradiating radiations to the mixture thereof to form a three-dimensional network structure is effectively utilized, by which the problem occurring in the pot life of the conventional binder is solved. The output fluctuation at frequency in a low range of 1-3kHz is eliminated by substituting the 1st layer of the binder with the radiation sensitive resin and the output decrease owing to the pot life of the coating in a high range, for example, of 16kHz is suppressed by substituting the binder in the 2nd layer with the radiation sensitive resin as well. There is no winding distortion during **thermal** curing **treatment** of the 2nd layer and the decrease in dimensional stability owing to thermal deformation of the polyester film,

blocking in the **magnetic** coated film, etc. are prevented.

40/3,AB/13 (Item 1 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0006005000 IP ACCESSION NO: 200010-56-1047
Special features of electron-beam boronizing of steels

Sizov, I G; Smirnyagina, N N; Semenov, A P
East Siberian State Technological University

Metal Science and Heat Treatment (Russia) (USA), v 41, n 11-12, p 516-519, May 2000
PUBLICATION DATE: 2000

PUBLISHER: Consultants Bureau, 233 Spring St., New York, NY, 10013
COUNTRY OF PUBLICATION: USA
PUBLISHER URL: http://www.wkap.nl

DOCUMENT TYPE: Translation
RECORD TYPE: Abstract
LANGUAGE: English
ISSN: 0026-0673
FILE SEGMENT: Metadex

ABSTRACT:
Electron-beam treatment is a promising method of surface treatment. It can be used in traditional technological operations, i.e., melting, welding, soldering, facing, quenching, and annealing, and in new processes, i.e., polymerization, local **change** of **magnetic** properties, recrystallization of the surface layer, zonal melting, etc. Chemical heat treatment of a metal surface with a daubing applied by means of a powerful electron beam is an interesting technique. By varying the composition of the daubing we can change the properties of the metal surface (wear resistance, corrosion strength, high-temperature strength, etc.). Electron-beam heating has some advantages over laser treatment, namely, (1) a high coefficient of the absorption of electron beam by the metal, which makes it possible to treat the surface effectively without absorbing coatings, (2) simplificity of organization of rapid scanning of the treated surface by the electron beam, (3) high efficiency of the electron gun (up to 70-80%), (4) the possibility of creating quite compact technological electron-beam units with a power of tens and hundreds of kilowatts, (5) treatment in vacuum. In this **connection** interest in works in this field has grown. The present paper concerns results of a study of the structure and properties of boronized layers deposited on St3, 20, 45 and U8A carbon steels by the method of electron-beam treatment under vacuum and by the traditional method for comparison.
Abstract

40/3,AB/14 (Item 2 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0005732554 IP ACCESSION NO: 200003-56-0016E
Monitoring of nitrided layer growth using **magnetic** measurement probe - the basic of method

43/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

06215365 INSPEC Abstract Number: A9608-8115G-017, B9605-0510D-021
Title: Some critical issues on growth of high quality Si and SiGe films using a solid-source molecular beam epitaxy system
Author(s): Ni, W.X.; Chen, W.M.; Buyanova, I.A.; Henry, A.; Hansson, G.V. ; Monemar, B.
Author Affiliation: Dept. of Phys., Linkoping University, Sweden
Journal: Journal of Crystal Growth Conference Title: J. Crystalline Growth (Netherlands) vol.157, no.1-4 p.242-7
Publisher: Elsevier,
Publication Date: Dec. 1995 Country of Publication: Netherlands
CODEN: JCRGAE ISSN: 0022-0248
SICI: 0022-0248(199512)157:1/4L.242:SCIG;1-Q
Material Identity Number: J037-96003
U.S. Copyright Clearance Center Code: 0022-0248/95/$09.50
Conference Title: Symposium L on Silicon Molecular Beam Epitaxy of the 1995 E-MRS Spring Conference
Conference Date: 22-26 May 1995 Conference Location: Strasbourg, France
Language: English
Abstract: Growth-related point defects and defect clusters are reported to incorporate in Si and SiGe layers prepared by molecular beam epitaxy under certain conditions. The defect incorporation behaviour has been studied particularly in **connection** with the growth temperature, and the use of substrate bias or surfactant overlayers. Strong broad band photoluminescence emissions were observed from samples grown at 420 degrees C with negative (V/sub B/<or=-250 V) or floating substrate bias. Based on results of the defect annihilation behaviour during post-growth **treatments** using **thermal** annealing and hydrogenation, we attribute these effects to the ion bombardment induced formation of various types of point-like defects and defect clusters, and find good correlation with lattice distortion observed by X-ray diffraction measurements. Non-radiative defects, which are suppressing the luminescence emission, have also been observed using optical **detection** of **magnetic** resonance measurements. Our results show that care has to be taken, when growth is carried out at low temperatures, to reduce the incorporation of these defects in MBE structures.
Subfile: A B

43/3,AB/2 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015583848
WPI Acc No: 2003-646005/200361
XRAM Acc No: C03-176721
Magnetically susceptible composition, useful for in vivo or ex vivo diagnostic imaging, comprises **magnetic** particles with **attached** biologically active compound
Patent Assignee: FERX INC (FERX-N)
Inventor: FAILING S N; LI Y; RUDGE S R; TAPOLSKY G H
Number of Countries: 102 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200359325	A1	20030724	WO 2003US489	A	20030107	200361	B

AU 2003214812 A1 20030730 AU 2003214812 A 20030107 200421

Priority Applications (No Type Date): US 2002347786 P 20020109
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200359325 A1 E 17 A61K-009/16
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW
AU 2003214812 A1 A61K-009/16 Based on patent WO 200359325

Abstract (Basic): WO 200359325 A1
Abstract (Basic):

NOVELTY - A **magnetically** susceptible composition comprises **magnetic** particles and a biologically active compound **attached** to the particles.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for;

(1) Use of a **magnetically** susceptible composition for in vivo diagnostic imaging by establishing a **magnetic** field exterior to the body adjacent to the site to be imaged, administering the above **magnetically** responsive composition, producing an image based upon **magnetic detection** of the composition, and analyzing the image;

(2) Use of a **magnetically** susceptible composition for ex vivo diagnostic imaging by providing a combination of biological material and the composition, applying a **magnetic** field to the combination, and analyzing the biological material to provide the diagnosis;

(3) A kit for administering the biologically active substance including a first receptacle comprising a unit dose of **magnetic** particles and a second receptacle comprising a solution comprising at least one biologically active compound;

(4) A method for local regional therapy involving intra-arterial or intravenous injection of the composition and establishing of an external **magnetic** field adjacent to a desired target region; and

(5) A method for increasing the concentration of the biologically active compound at an in vivo site involving injecting the composition and establishing an external **magnetic** field adjacent to the in vitro site where increased concentration desired.

ACTIVITY - Antimigraine; Anticonvulsant; CNS Gen.; Hypotensive; Antiinflammatory; Antiasthmatic; Antiarrhythmic; Antimicrobial; Virucide; Immunosuppressive; Immunostimulant; Cardiant; Tuberculostatic; Thrombolytic; Protozoacide; Fungicide; Cytostatic.

USE - For in vivo or ex vivo diagnosis of disease and treatment of disease (claimed), using antimigraine agent, anti-epileptic agent, agent for treatment of central nervous system degenerative disorders, antithrombotic agent, anti-hypertensive agent, such as diuretics, anti-inflammatory and anti-asthmatic agent, antiarrhythmic agents, anthelmintic agent, antimicrobial agent, anti-fungal and anti-viral agent, anti-neoplastic agent, immunosuppressive agent and immunostimulant; in the treatment of myocardial ischemia, leprosy and in the chemotherapy of tuberculosis, for diagnostic and/or therapeutic for guided delivery to a target site.

ADVANTAGE - The novel **magnetic** particles are biodegradable and biocompatible; exhibit excellent labelling efficiency and stability

and have an increased **magnetic** susceptibility, as compared to a previous composition.
pp; 17 DwgNo 0/7

43/3,AB/3 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015015252
WPI Acc No: 2003-075769/200307
XRAM Acc No: C03-019744
XRPX Acc No: N03-058638
Preparation of superconductor massive bodies of magnesium boride, used as targets for vacuum deposition of thin films, involves assembling preform of activated boron powders and massive magnesium precursors
Patent Assignee: EDISON SPA (MONT); CERESARA S (CERE-I); GIUNCHI G (GIUN-I)
Inventor: CERESARA S; GIUNCHI G
Number of Countries: 101 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200293659	A2	20021121	WO 2002IB1594	A	20020510	200307 B
EP 1390992	A2	20040225	EP 2002727859	A	20020510	200415
			WO 2002IB1594	A	20020510	
KR 2003092102	A	20031203	KR 2003713903	A	20031024	200424
US 20040124086	A1	20040701	WO 2002IB1594	A	20020510	200444
			US 2003474918	A	20031016	
AU 2002258044	A1	20021125	AU 2002258044	A	20020510	200452
CN 1537335	A	20041013	CN 2002809161	A	20020510	200508
JP 2005508278	W	20050331	JP 2002590428	A	20020510	200523
			WO 2002IB1594	A	20020510	
IT 1325409	B	20041207	IT 2001MI978	A	20010511	200560
RU 2264366	C2	20051120	WO 2002IB1594	A	20020510	200576
			RU 2003130954	A	20020510	

Priority Applications (No Type Date): IT 2001MI978 A 20010511
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200293659	A2	E	30	H01L-039/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
EP 1390992	A2	E		H01L-039/24	Based on patent WO 200293659
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
KR 2003092102	A			H01L-039/24	
US 20040124086	A1			C25D-007/00	
AU 2002258044	A1			H01L-039/00	Based on patent WO 200293659
CN 1537335	A			H01L-039/24	
JP 2005508278	W		44	C01B-035/04	Based on patent WO 200293659
IT 1325409	B			H01B-000/00	
RU 2264366	C2			C04B-035/58	Based on patent WO 200293659

Abstract (Basic): WO 200293659 A2
Abstract (Basic):

NOVELTY - Superconductor massive bodies of magnesium boride are prepared by activation of crystalline boron with formation of activated powders and formation of porous preform of activated powders of crystalline boron. The porous boron preform and massive precursors of metallic magnesium are assembled and **sealed** in atmosphere of inert gas or with low oxygen content.

DETAILED DESCRIPTION - Preparation of superconductor massive bodies of magnesium boride comprises mechanical activation of crystalline boron with formation of activated powders and formation of porous preform of activated powders of crystalline boron. The porous boron preform and massive precursors of metallic magnesium are assembled in a container and **sealed** in an atmosphere of inert gas or with low oxygen content. The assembled boron and magnesium is thermally treated at higher than 700 degrees Celsius for greater than 30 minutes, with consequent percolation of magnesium, in liquid phase, through the activated crystalline boron powders.

USE - Used for preparing superconductor massive bodies of magnesium boride useful as target for vacuum deposition technologies of thin films e.g. laser ablation and radio-frequency sputtering or useful as electric current cut-ins, variable induction elements in current limitations systems, permanent **magnets** to used in levitation systems, for medical **magnetic** resonance systems, for elementary **particle** accelerators and **detectors**, for energy accumulation systems, for linear or non-linear motors and for power generators (claimed).

ADVANTAGE - The process allows the production of solid superconductor products of magnesium boride that is densified up to values close to the theoretical value and has improved characteristics, in simple and economic way.

DESCRIPTION OF DRAWING(S) - The graph shows an X-ray diffraction diagram of activated and non-activated boron powders.

pp; 30 DwgNo 1/5

43/3,AB/4 (Item 1 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0005050418 IP ACCESSION NO: 172593
Specification for welding of steel pipelines on land and offshore

INSTITUTION, BRITISHSTANDARDS
BRITISH STANDARDS INSTITUTION. UK

ADDL. SOURCE INFO: British Standard BS 4515:1995. [Third edition]. Publ: London W4 4AL, UK; British Standards Institution; Sept.1995. ISBN 0-580-24225-0. 53pp. 10 fig., 13 tab., 38 reference
PUBLICATION DATE: 1995

RECORD TYPE: Abstract
LANGUAGE: English
ISBN: 0580242250
FILE SEGMENT: Weldasearch

ABSTRACT:
This standard covers the manual, semi-automatic or mechanised arc welding, testing and acceptance of butt joints, branch **connections**, fillet welds and socket joints in mild steel, carbon manganese steel and low alloy steel pipelines (excluding longitudinal welds) of external diameter at least 21.3 mm and minimum thickness 3.2 mm and yield strength

45/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008128956
WPI Acc No: 1990-015957/199003
XRAM Acc No: C90-006831
XRPX Acc No: N90-012273
Microwave treatment tunnel - used for thermally stabilising pre-packaged food articles, includes conveyor belt recessed to accept containers
Patent Assignee: BARILLA FRAT SPA G & R (BARI-N); BARILLA SPA G & R (BARI-N)
Inventor: CASELLI O; FERRARI C
Number of Countries: 015 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 350564	A	19900117	EP 89104212	A	19890309	199003	B
JP 2027969	A	19900130	JP 89136286	A	19890531	199010	
EP 350564	B1	19920513	EP 89104212	A	19890309	199220	
DE 68901503	E	19920617	DE 601503	A	19890309	199226	
			EP 89104212	A	19890309		
IT 1226353	B	19910111	IT 8821341	A	19880713	199226	
CA 1312122	C	19921229	CA 594033	A	19890317	199306	
ES 2033031	T3	19930301	EP 89104212	A	19890309	199321	
JP 93085153	B	19931206	JP 89136286	A	19890531	199351	

Priority Applications (No Type Date): IT 8821341 A 19880713
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 350564	A	E	9		
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
EP 350564	B1	E	12	A23L-003/00	
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
DE 68901503	E			A23L-003/00	Based on patent EP 350564
ES 2033031	T3			A23L-003/00	Based on patent EP 350564
JP 93085153	B		7	A23L-003/01	Based on patent JP 2027969
IT 1226353	B			A23L	
CA 1312122	C			A23L-003/00	

Abstract (Basic): DE 68901503 E

Microwave **treatment** tunnel for **thermally** stabilising pre-packaged food articles has conveyor belt with recesses shaped to match the shape of the food containers. The conveyor carries the food articles from an inlet port to an outlet port through the microwave tunnel. Each of the recesses on the conveyor belt has a side wall made of a metal showing high electrical conductivity e.g. aluminium.

USE/ADVANTAGE - Thermal stabilising, on a continuous basis of pre-packaged food articles **sealed** within containers. A microwave treatment tunnel together with a conveyor belt having recesses for the food containers gives a more uniform and spread heating to the food.

EP 350564 A

Microwave **treatment** tunnel for **thermally** stabilising pre-packaged food articles has conveyor belt with recesses shaped to match the shape of the food containers. The conveyor carries the food articles from an inlet port to an outlet port through the microwave tunnel. Each of the recesses on the conveyor belt has a side wall made of a metal showing high electrical conductivity e.g. aluminium.

USE/ADVANTAGE - Thermal stabilising, on a continuous basis of pre-packaged food articles **sealed** within containers. A microwave treatment tunnel together with a conveyor belt having recesses for the

food containers gives a more uniform and spread heating to the food.

1/5

Abstract (Equivalent): EP 350564 B

An apparatus for thermally stabilising, on a continuous basis by means of microwaves, pre-packaged food articles **sealed** within containers which are at least partially transparent to microwaves, in particular packages of the tray type, including a microwave treatment tunnel (1) and a conveyor (7) for taking said packages through said tunnel (1) from an inlet port (3) thereof, characterised in that the conveyor (7) has a plurality of recesses (14) shaped to match the shape of said packages (19) and having a side wall (15) made of a metal or metal alloy exhibiting high electrical conductivity and low **magnetic** permeability, such as aluminium and copper.

involving either determining conservative behavior characteristics of a target particle found in a batch or continuous stream of material; and determining material and dimensions for a carrier particle design which substantially corresponds to at least one conservative behavior characteristics of the target particle;

(8) method (m2) of providing carrier particle with conservative behavior characteristics in batch or continuous stream of material involving (b1) simulating thermal treatment of target particle until predetermined lethality is accumulated; (b2) simulating carrier particle under the same thermal treatment in step (b1), where carrier particle comprises interior cavity and wall; and (b3) determining conservative thickness for the wall of the carrier particle such that interior cavity of carrier particle receives same predetermined lethality as target particle under thermal treatment simulated in step (b1);

(9) computer-readable medium storing instructions for aiding design of carrier particle with conservative behavior characteristics in batch or continuous stream of material comprising either determining conservative behavior characteristics of target particle used in a batch or continuous stream of material, and determining material and dimensions for carrier particle design about matching conservative behavior characteristics of target particle; or simulating thermal treatment of target particle until predetermined lethality is accumulated, simulating carrier particle under same thermal treatment simulated, where carrier particle comprises interior cavity and wall; and determining a conservative thickness for the wall of the carrier particle such that the interior cavity of the carrier particle receives the same predetermined lethality as the target particle under the thermal treatment.

USE - For generating a temperature measurements for a batch or a continuous stream of material and for generating an environmental condition measurement in an environment (claimed).

pp; 179 DwgNo 0/90

51/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004552138
WPI Acc No: 1986-055482/198608
XRPX Acc No: N86-040627
Detector for underwater magnetisable material - has float coupled to magnet which is released when attracted by submerged material
Patent Assignee: ERICSTAM ERICSSON H (ERIC-N); ERICSTAM U (ERIC-I); ULF E (ULFE-I)
Inventor: FRICSTAM U
Number of Countries: 015 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8600861	A	19860213	WO 85SE270	A	19850704	198608	B
SE 8403866	A	19851104				198612	
NO 8601201	A	19860616				198631	
EP 190214	A	19860813	EP 85903720	A	19850719	198633	
JP 61502953	W	19861218				198705	
EP 190214	B	19871104	EP 85903720	A	19850704	198744	
DE 3560885	G	19871210				198750	
US 4731036	A	19880315	US 86852247	A	19860319	198814	

Priority Applications (No Type Date): SE 843866 A 19840726

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8600861	A	E	18		
Designated States (National): DE DK GB JP LU NL NO US					
Designated States (Regional): AT BE CH DE FR GB IT LU NL SE					
EP 190214	A	E			
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
EP 190214	B	E			
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					

Abstract (Basic): WO 8600861 A

The sensor has a magnet (4) with an active surface (4A). A float (6) is connected to the magnet and is releasable from it. There is at least one ejector protrusion (10) extending from the active surface of the magnet. The protrusion releases the float when the magnet interacts with a magnetisable material to be detected.

The magnet and float can also be connected by a line (7) which may be accommodated in a cavity in the float. The magnet can be annular with the ejector protrusion accommodated in the central opening. (18pp Dwg.No.2/6)

Abstract (Equivalent): EP 190214 B

Means for indicating the presence in a fluid (2) of an object (3) consisting of a material capable of being affected by a magnet, said means containing a magnet, characterised in that the magnet (4;35;46,47) exhibits an active surface (4A; 25A;46A,47A) capable of interacting with the object (3) in question and a floating body (6;23;41) connected to the magnet in such a way as to be capable of being released from it, in conjunction with which there is present at least one ejector protrusion (10;26,42,43) projecting from the floating body and beyond the active surface in question, so arranged that the ejector protrusion (10;26;42;43) will endeavour, because of the nature of the interaction between the ejector protrusion and the object (3) in question, to break the holding effect between the magnet and the floating body when the magnet is affected by the object in question. (11pp)e

Abstract (Equivalent): US 4731036 A

The indicator for indicating the presence in water of an object consists of material capable of being affected by a magnet. The magnet exhibits an active surface capable of interacting with the object in question and a floating body connected to the magnet in such a way as to be capable of being released from it.

There is present at least one ejector protrusion projection beyond the active surface in question. The ejector protrusion will endeavour, because of the nature of the interaction between the ejector protrusion and the object in question, to break the bond between the magnet and the floating body when the magnet is affected by the object in question.

ADVANTAGE - The device enables a reliable and effective indication to be given of metallic objects which are present in water. (8pp)

59/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

017243330
WPI Acc No: 2005-566963/200558
XRPX Acc No: N05-464843
Position measurement method of rotating tire, involves **detecting** **magnetic** flux density of **magnetic** field by **magnet** **attached** to object, by **magnetic** sensors mutually separated by predetermined distance and arranged on straight line
Patent Assignee: BRIDGESTONE CORP (BRID)
Inventor: KIKUCHI M; SHIZUKU T
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2005214934	A	20050811	JP 200425667	A	20040202	200558	B

Priority Applications (No Type Date): JP 200425667 A 20040202
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2005214934	A		8	G01B-007/00	

Abstract (Basic): JP 2005214934 A
Abstract (Basic):
NOVELTY - The **magnetic** flux density of **magnetic** field by a **magnet** (Mg) **attached** to a object (B), is **detected** by the **magnetic** sensors (SN1,SN2) which are mutually separated by a predetermined distance (D) and arranged on a straight line (L). The position of object is calculated from the ratio of **magnetic** flux densities **detected** by the sensors.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for **temperature measurement** method.
USE - For measuring position of object such as rotating tire.
ADVANTAGE - The position of object is measured, with high accuracy, without any influence even if **magnetic** temperature and **magnetic** charge **changes**.
DESCRIPTION OF DRAWING(S) - The figure shows an explanatory diagram of the position measurement method.
object (B)
distance (D)
straight line (L)
magnet (Mg)
magnetic sensors (SN1,SN2)
pp; 8 DwgNo 1/4

59/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011630747
WPI Acc No: 1998-047875/199805
XRPX Acc No: N98-038149
Displacement **detector** with **temperature** compensation for **detection** of linear or rotary displacement - includes temperature compensation resistors **connected** across **two** adjacent **magnetic detecting** elements in parallel
Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ)

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9297002	A	19971118	JP 96110958	A	19960501	199805	B

Priority Applications (No Type Date): JP 96110958 A 19960501
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9297002	A		7	G01B-007/00	

Abstract (Basic): JP 9297002 A

The displacement detector has a set of **magnetic detecting** elements (1-4) arranged on all the four sides of a bridge circuit.

A pair of temperature compensation resistors (10a,11a) are **connected** across and **two** adjacent **magnetic detecting** elements in parallel, to compensate error in resistances due to temperature variation.

ADVANTAGE - Compensates errors due to temperature variation. Maintains normal output characteristics. Avoids influence of variation in ambient **temperature**. Offers accurate **detection** of displacement. Improves yield of product. Offers simple and accurate temperature compensation.

Dwg.1/8

59/3,AB/3 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

08466674

POSITION **MEASURING** METHOD AND **TEMPERATURE MEASURING** METHOD FOR OBJECT

PUB. NO.: 2005-214934 [JP 2005214934 A]
PUBLISHED: August 11, 2005 (20050811)
INVENTOR(s): SHIZUKU TAKAHISA
KIKUCHI MASAMI
APPLICANT(s): BRIDGESTONE CORP
APPL. NO.: 2004-025667 [JP 200425667]
FILED: February 02, 2004 (20040202)

ABSTRACT

PROBLEM TO BE SOLVED: To provide an object position measuring method capable of specifying precisely a position of an object without being affected by a temperature or the like, in a method of measuring the position of the object **attached** with a **magnet** or a **magnetic** sensor, based on **detected magnetic** flux densities by **detecting** the **magnetic** flux densities of a **magnetic** field by the **magnet** by the **magnetic** sensors, and an object **temperature measuring** method capable of specifying a temperature of the object without being affected by the position of the object, when the object is displaced.

SOLUTION: The **magnetic** flux densities of a **magnetic** field by the **magnet** Mg **attached** to the object B is detected by the **two magnetic** sensors SN1, SN2 arranged separately each other by a prescribed distance D on a straight line L extended along a displacing direction of the object B through the **magnet** Mg, and the position of

the object B is found based on a ratio of the respective **magnetic** flux densities **detected** by the **magnetic** sensors SN1, SN2.

61/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016775451
WPI Acc No: 2005-099729/200511
XRPX Acc No: N05-086590
Speed and position detecting device used for motor vehicle has **magnetic** field sensor coacting with sensor elements, which is **connected** to analyzing circuit and adapted to detect **change** in **magnetic field**
Patent Assignee: BOSCH GMBH ROBERT (BOSC); MAY U (MAYU-I); RABE M (RABE-I); SIEGLE H (SIEG-I)
Inventor: MAY U; RABE M; SIEGLE H
Number of Countries: 004 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20050007105	A1	20050113	US 2004879658	A	20040629	200511	B
DE 10331580	A1	20050127	DE 10331580	A	20030711	200511	
FR 2857455	A1	20050114	FR 20047614	A	20040708	200511	
CN 1576798	A	20050209	CN 200463583	A	20040712	200532	

Priority Applications (No Type Date): DE 10331580 A 20030711
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20050007105	A1		7	G01B-007/30	
DE 10331580	A1			G01P-003/487	
FR 2857455	A1			G01P-003/44	
CN 1576798	A			G01D-005/16	

Abstract (Basic): US 20050007105 A1
Abstract (Basic):
NOVELTY - A **magnetic** field sensor (5) coacting with sensor elements is **connected** to an analyzing circuit and adapted to detect a **change** in **magnetic field**. The sensor is composed of a sensor material that carries out colossal **magnetoresistance** effect.
USE - Used for detecting speed and position of rotating element e.g. toothed wheel, multipole wheel for motor vehicle.
ADVANTAGE - Provides higher signal amplitudes or sensitivities.
DESCRIPTION OF DRAWING(S) - The figure is a perspective view of a wheel of motor vehicle.
Wheel (1)
Wheel axis (2)
Wheel bearing (3)
Magnetic pole wheel (4)
Magnetic field sensor (5)
pp; 7 DwgNo 1/4

61/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015776205
WPI Acc No: 2003-838407/200378
XRPX Acc No: N03-670377
Steering angle sensor for motor vehicles, has electronic circuits to convert and output change of **magnetism** due to rotation of **magnet** into electrical signal to **connector**

Patent Assignee: ZEXEL KK (DIES)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2003294409	A	20031015	JP 200292781	A	20020328	200378	B

Priority Applications (No Type Date): JP 200292781 A 20020328
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2003294409	A		9	G01B-007/30	

Abstract (Basic): JP 2003294409 A
Abstract (Basic):

NOVELTY - A main electronic circuit board (4) consists of **magnetic change detectors** that convert a change of **magnetism** produced by the rotation of **magnet**, into an electrical signal and outputs it to a sub-electronic circuit board of a signal processor (5). The sub-electronic circuit board outputs the electrical signal to an output **connector** (63).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for steering angle sensor fixture rotation **connector** apparatus.

USE - For detecting rotation angle of steering wheel of motor vehicle.

ADVANTAGE - The arrangement of the detectors in the electronic circuit boards does not require a high precision, thereby increasing the freedom in housing shape of the steering angle sensor, hence the cost of the steering angle sensor is reduced.

DESCRIPTION OF DRAWING(S) - The figure shows a perspective view of the steering angle sensor.

steering angle detection mechanism unit (1)
main electronic circuit board (4)
signal processor (5)
signal processing unit housing (51)
output **connector** (63)
pp; 9 DwgNo 7/7

61/3,AB/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014990747
WPI Acc No: 2003-051262/200305
XRPX Acc No: N03-040562
Displacement sensor for accelerator pedal sensor, includes **sealing** portion such that **magnetic** sensor is **sealed** on outer periphery of **magnet** between housing and case
Patent Assignee: AISIN SEIKI KK (AISE)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2002286498	A	20021003	JP 200185644	A	20010323	200305	B

Priority Applications (No Type Date): JP 200185644 A 20010323
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2002286498	A		5	G01D-005/12	

Abstract (Basic): JP 2002286498 A
Abstract (Basic):

NOVELTY - A **magnetic** sensor (1) **detects** the **change** in **magnetic field** generated by displacement of a **magnet** (9). A housing (2) has an opening (2a) for holding and **sealing** the **magnetic** sensor using a **sealing** portion (4). Another **sealing** portion (4a) is extended from the **sealing** portion (4) such that the **magnetic** sensor is **sealed** on the outer periphery of the **magnet** between the housing and case (7).

USE - Displacement sensor used in accelerator pedal sensor and throttle-valve opening sensor.

ADVANTAGE - Since the **magnetic** sensor is **sealed** between the housing and case using **sealing** portions, the sensor with good waterproof structure is obtained efficiently without increasing the time and labor.

DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the displacement sensor.

Magnetic sensor (1)
Housing (2)
Opening (2a)
Sealing portions (4,4a)
Pedal shaft (6)
Case (7)
Magnet (9)
pp; 5 DwgNo 1/3

61/3,AB/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011523013
WPI Acc No: 1997-499499/199746
XRPX Acc No: N97-416206

Magnetic type potentiometer - has movable **magnetism** plate arranged on fixed **magnetic** plate, when it moves flux of both **magnets** cancel each other near centre and breaks down balance

Patent Assignee: NISSAN MOTOR CO LTD (NSMO)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9236644	A	19970909	JP 9643438	A	19960229	199746	B
JP 3324382	B2	20020917	JP 9643438	A	19960229	200268	

Priority Applications (No Type Date): JP 9643438 A 19960229
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9236644	A		10	G01R-033/07	
JP 3324382	B2		10	G01R-033/07	Previous Publ. patent JP 9236644

Abstract (Basic): JP 9236644 A

The potentiometer has a linear hole IC (11) fixed on a lobe (1a) in the upper surface of a fixed **magnetic** plate. **Two** **magnets** (4,5) are arranged on both end faces of the fixed **magnetic** plate so that the **magnetism** is mutually reverse. A movable **magnetism** plate (12) is arranged on the fixed **magnetic** plate. The movable **magnetism** plate moves and the flux of the **two** **magnets** cancel with each other near the centre and loses balances.

When the movable **magnetism** plate moves to any one of the end most part, **magnets** are fixed. The **magnetic** flux density

detected by a **magnetic** sensor varies uniformly.
ADVANTAGE - Inhibits component life reduction due to wear.
Secures smooth movement.
Dwg.1/12

61/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011516877
WPI Acc No: 1997-493363/199746
XRPX Acc No: N97-410549
Embedded object position detector in building - has **two** **magnetic** sensors set at certain interval between each other such that output performance graph of two sensors cross at inflection point in distance output characteristics
Patent Assignee: MATSUSHITA ELECTRIC WORKS LTD (MATW)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9229612	A	19970905	JP 9637982	A	19960226	199746	B
JP 3582208	B2	20041027	JP 9637982	A	19960226	200470	

Priority Applications (No Type Date): JP 9637982 A 19960226
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9229612	A		4	G01B-007/00	
JP 3582208	B2		5	G01B-007/00	Previous Publ. patent JP 9229612

Abstract (Basic): JP 9229612 A
The detector judges the position of an embedded object based on the output of a pair of **magnetic** sensors (1a,1b). The **magnetic** sensors **detect** the **magnetism** of a permanent **magnet** provided in an embedded object covered by a wall plate (5).
The **two** **magnetic** sensors are provided at an interval such that the output performance graph of the **two** **magnetic** sensors cross near an inflection point in distance output characteristics.
ADVANTAGE - **Secures** high position detection accuracy.
Dwg.2/4

61/3,AB/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011112476
WPI Acc No: 1997-090401/199709
XRPX Acc No: N97-074342
Pressure sensor for e.g. fluid pressure, gas pressure - uses thin **magnetic** plate with **magnetisation** hysteresis characteristic in passing **magnetic** flux from **first** and **second** **magnets** to **magnetic** **detecting** unit
Patent Assignee: AISIN SEIKI KK (AISE)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8327484	A	19961213	JP 95131436	A	19950530	199709	B

Priority Applications (No Type Date): JP 95131436 A 19950530
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 8327484 A 5 G01L-009/14

Abstract (Basic): JP 8327484 A

The sensor has a case (1) provided with a fluid-flow opening (1b) and utilised in opening and closing a base (8). The fluid-flow opening is **connected** to a diaphragm (2) that divides and closes the space enclosed by the case and base. A pressure plate (2a) and a flexible piece (2b) included in the diaphragm, support a **first magnet** (5). A compression coil spring (4a) passes a returning force to the diaphragm in a reverse direction, moving the diaphragm in an internal fluid-pressure spatial (3).

A **second magnet** (7) generates flux fewer than the flux generated by the **first magnet**. A **magnetic detecting** unit contg. a hole (6) is fixed to the base between the **first** and **second magnets**. The **magnetic** flux from the **first** and **second magnet** is passed to the **magnetic detecting** unit through a **magnetic** plate (14) with **magnetisation** hysteresis characteristic.

ADVANTAGE - Reduces temp. drift of binary signal corresp. to **magnetic** flux generated by **magnet** during temp. changes, thus improving binary signal reliability. Eliminates temp. drift of detected signal by stabilising sensor temp. rise caused by **magnets** on **detecting** unit.

Dwg.1/3

61/3,AB/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011112475
WPI Acc No: 1997-090400/199709
XRPX Acc No: N97-074341

Pressure sensor for e.g. fluid pressure, gas pressure - has **magnetic detecting** component contg. hole and fixed on base between **first magnet** and **second magnet** whose generated flux is fewer than generated flux of **first magnet**

Patent Assignee: AISIN SEIKI KK (AISE)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 8327483 A 19961213 JP 95131435 A 19950530 199709 B

Priority Applications (No Type Date): JP 95131435 A 19950530
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 8327483 A 6 G01L-009/14

Abstract (Basic): JP 8327483 A

The sensor has a case (1) provided with a fluid-flow opening (1b) and utilised in opening and closing a base (8). The fluid-flow opening is **connected** to a diaphragm (2) that divides and closes the space enclosed by the case and base. A pressure plate (2a) and a flexible piece (2b) included in the diaphragm, support a **first magnet** (5).

A compression coil spring (4a) passes a returning force to the diaphragm in a reverse direction, moving the diaphragm in an internal

fluid-pressure space (3). A **second magnet** (7) generates flux fewer than the flux generated by the **first magnet**. A **magnetic detecting** unit contg. a hole (6) is fixed to the base between the **first** and **second magnets**.

ADVANTAGE - Raises **magnetic field** corresp. to **first magnet** which approaches **magnet detecting** unit during expansion of pressure plate due to temp. rise. Eliminates temp. drift of detected signal by stabilising sensor temp. rise caused by **first** and **second magnets** on **magnetic detecting** unit.

Dwg.1/5

61/3,AB/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010191674
WPI Acc No: 1995-092928/199513
XRPX Acc No: N95-073467

Solid-state pulse generator for enabling data collection circuit - **detects change** in **magnetic** filed and generates output pulse, and has MOSFET which forms closed circuit between output terminals to enable data collection circuit **connected** to it

Patent Assignee: GERHOLD R (GERH-I); DRESSER IND INC (DRES)
Inventor: GERHOLD R R
Number of Countries: 006 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2281626	A	19950308	GB 9416858	A	19940819	199513	B
DE 4431164	A1	19950309	DE 4431164	A	19940901	199515	
FR 2709620	A1	19950310	FR 9410552	A	19940902	199515	
NL 9401426	A	19950403	NL 941426	A	19940901	199518	
CA 2130320	A	19950304	CA 2130320	A	19940817	199522	
US 5530298	A	19960625	US 93116872	A	19930903	199631	
GB 2281626	B	19960918	GB 9416858	A	19940819	199641	
DE 4431164	C2	19980604	DE 4431164	A	19940901	199826	
CA 2130320	C	19990615	CA 2130320	A	19940817	199942	
NL 194485	B	20020102	NL 941426	A	19940901	200206	

Priority Applications (No Type Date): US 93116872 A 19930903
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2281626	A		27	G08C-019/26	
DE 4431164	A1		10	G01D-005/12	
FR 2709620	A1			H03K-003/353	
NL 9401426	A			H03K-005/04	
CA 2130320	A			H03K-003/00	
US 5530298	A		9	H03K-005/15	
GB 2281626	B		1	G08C-019/26	
DE 4431164	C2			G01D-005/12	
CA 2130320	C	E		H03K-003/00	
NL 194485	B			H03K-005/04	

Abstract (Basic): GB 2281626 A

The solid state pulse generator comprises a sensor (34) which detects a **change** in **magnetic** filed with a rotation of a **magnet** in a meter, and generates an electric output pulse (36). A MOSFET switch (44) is coupled to the sensor for forming a closed circuit between output terminals (46, 48) when a pulse is generated by

the sensor, thereby enabling a data collection circuit coupled to the output terminals.

The sensor may be of the Wiegand wire type.

USE/ADVANTAGE - For providing output pulses from gas volume meter in response to rotation fo **magnet** in meter. Circuit requires no power other than that provided by sensor.

Dwg.4/7

Abstract (Equivalent): GB 2281626 B

A solid-state pulse generator for generating pulses for a data collection circuit and comprising of a sensor for sequentially generating positive and negative electrical output signals;

a first controlled MOSFET switch coupled to the sensor and having output terminals for forming a closed circuit between the output terminals on receipt of a specific one of the positive and negative signals generated by the sensor, the closed circuit between the output terminals providing a signal for enabling a data collection circuit coupled thereto;

a second controlled switch coupled between the sensor and the first controlled switch; and a voltage feedback circuit coupled from said first controlled switch to said second controlled switch, one or both of said voltage feedback and the other one of said positive and negative sensor signals being used to increase the speed of disabling the data collection circuit.

(Dwg.1/2)

Abstract (Equivalent): US 5530298 A

A solid-state pulse generator for enabling a data collection circuit and including:

a sensor for detecting a **change** in a **magnetic** field and sequentially generating positive and negative electrical output signals;

a first controlled switch coupled to the sensor and having output terminals for forming a closed circuit between the output terminals only when receiving a specific one of the positive and negative signals generated by the sensor, the closed circuit between the output terminals enabling the data collection circuit coupled thereto;

a second controlled switch coupled between the sensor and the first controlled switch; and

a voltage feedback circuit coupled from said first controlled switch to said second controlled switch, one or both of said voltage feedback and the other one of said sensor signals being used to increase the speed of disabling the data collection circuit.

Dwg.3/7

61/3,AB/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008278837

WPI Acc No: 1990-165838/199022

XRPX Acc No: N90-128710

Measuring angular position of rotor WRT stator - uses number of **magnetic two** winding **detectors** arranged around circumference each having receiver and transmitter

Patent Assignee: GEC ALSTHOM SA (ENGE)

Inventor: MAESTRE J F; REGIS A

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2637683	A	19900413	FR 8813272	A	19881010	199022	B

ES 2037981 T3 19930701 EP 89402771 A 19891009 199331

Priority Applications (No Type Date): FR 8813272 A 19881010; FR 8910533 A 19890804

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
ES 2037981	T3			G01D-005/20	Based on patent EP 370839

Abstract (Basic): FR 2637683 A

The system uses 2n **magnetic detectors**, n being the number of electrical planes of the detector, arranged on a circumference fixed w.r.t. a stator. Each **detector** has a **magnetic** circuit (4,5) fitted with a transmitting (6) and a receiving (7) winding. The **magnetic** circuit having an airgap. The detectors are grouped in pairs, each pair member is angularly displaced from each other by an angle 180/m. Two neighbouring groups are angularly displaced from the other by an angle equal to 360k/m, where k is a coefficient dependent on the phase number of the detector, m & n being whole numbers.

The transmitting windings are series **connected** and are fed by an alternating voltage source at a frequency between 2 and 15 Hertz. The system has a moving element (8,9) fixed to the rotor (1) and fitted with teeth designed to pass in the air gap of the detectors. The receiving windings of the same group are **connected** in series and the envelope of signals at the winding terminals represent an image of the rotation angle of the rotor.

ADVANTAGE - Operates well at low speeds and gives precise measurement of rotor position at reduced cost.

Dwg.2/8

Abstract (Equivalent): EP 370839 B

Device for measuring the rotation angle of a rotor relative to a stator comprising **magnetic** sensors disposed on a circumference fixed raltive to the stator, each sensor comprising a **magnetic** circuit (4,5) having a send coil (6) and a receive coil (7), the **magnetic** circuit having an airgap, the device further comprising a conductive a **magnetic** material mobile member (8) fastened to the rotor (1) and provided with teeth constrained to move in said airgap of the sensors, the send coils being all **connected** in series, characterised, in the n groups of two sensors are provided, the sensors of the same group being offset angularly by 180 degree/m where m is an integer equal to the number of said teeth, two adjacent groups of sensors being angularly offset without any overlapping of the two groups, in that the send coils are fed with an alternating current at a frequency between 2 and 15 kHz, in that the receive coils of the same group of sensors are **connected** in series, the envelope of the signals across these series receive coil circuits representing, apart from a phaseshift, the measured rotation angle of the rotor.

(Dwg. 8/16

61/3,AB/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

007964328

WPI Acc No: 1989-229440/198932

XRPX Acc No: N89-175014

Bearing with integral speed sensor - includes **magnetic detector** and notched multi-pole **magnetic** ring moving past detector

Patent Assignee: SNR SOC NOUV ROULEMENTS (SNRR-N)
Inventor: GODARD G; GUERS R; PEILLOUD F
Number of Countries: 006 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 327434	A	19890809	EP 89400231	A	19890127	198932 B
FR 2626632	A	19890804				198938
EP 327434	B	19920115				199203
DE 68900684	E	19920227				199210
ES 2027818	T3	19920616	EP 89400231	A	19890127	199229

Priority Applications (No Type Date): FR 881158 A 19880202
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 327434	A	F	7		
Designated States (Regional): DE ES GB IT SE					
EP 327434	B				
Designated States (Regional): DE ES GB IT SE					
ES 2027818	T3			G01P-003/48	Based on patent EP 327434

Abstract (Basic): EP 327434 A

The bearing includes a fixed element (10) with a sensor (15) **attached**. The sensor is responsive to **magnetic field** variations. The **second** part of the bearing comprises the turning element (11) which carries a **magnetised** ring, coaxial with the element itself. The ring has a number of **magnetic** poles formed on it.

A support on the periphery of the turning element (17) carries the **magnetic** ring, leaving an air gap between the ring and the detector (15) on the fixed element. The ring includes a number of circumferentially spaced notches.

USE - Measurement of speed of rotation of component in vehicle, without need for very precise tolerance in mfr. of **magnetic** component.

1/4

Abstract (Equivalent): EP 327434 B

The bearing includes a fixed element (10) with a sensor (15) **attached**. The sensor is responsive to **magnetic field** variations. The **second** part of the bearing comprises the turning element (11) which carries a **magnetised** ring, coaxial with the element itself. The ring has a number of **magnetic** poles formed on it.

A support on the periphery of the turning element (17) carries the **magnetic** ring, leaving an air gap between the ring and the detector (15) on the fixed element. The ring includes a number of circumferentially spaced notches.

USE - Measurement of speed of rotation of component in vehicle, without need for very precise tolerance in mfr. of **magnetic** component. (7pp Dwg.No.1/4)

61/3,AB/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007368057
WPI Acc No: 1988-001992/198801
XRPX Acc No: N88-001550
Displacement sensor for measuring load on vehicle - has detector in tube over which sliding tube and **magnetic** element are positioned to

program triggering level
Patent Assignee: SALOU A (SALO-I)
Inventor: SALOU A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2598219	A	19871106	FR 866433	A	19860430	198801	B

Priority Applications (No Type Date): FR 866433 A 19860430
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2598219	A		7		

Abstract (Basic): FR 2598219 A

One or more **magnetic detectors** (3) are glued in a tube (4) of a non-**magnetic** material which has a low coefficient of friction. Electrical **connections** (1) transmit the detector signals to an alarm indicator. The tube is a sliding fit in a second tube (5) which may be of stainless steel or copper and which is transparent to **magnetic** radiation. On this tube slides a part (2) containing a **magnetic** material.

The sliding action between the **magnetic** part and the outer tube allows the triggering threshold to be set for the alarm circuit. This alarm is triggered when the points (A,B) respectively on the **magnet** and **detector** are in the same perpendicular plane.

ADVANTAGE - Programmable and operates in severe environment.

1/1

61/3,AB/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004255775
WPI Acc No: 1985-082653/198514
XRPX Acc No: N85-061932
Measuring physiological parameter e.g. intracranial pressure - by **detecting** orientation of **magnetic** field of surgically implanted device which generates **magnetic** field
Patent Assignee: HAKIM S (HAKI-I)
Inventor: HAKIM S
Number of Countries: 012 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 136054	A	19850403	EP 84305665	A	19840820	198514	B
US 4608992	A	19860902	US 83524367	A	19830818	198638	
CA 1254951	A	19890530				198926	
EP 136054	B	19911116				199145	
DE 3485239	G	19911212				199151	

Priority Applications (No Type Date): US 83524367 A 19830818
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 136054	A	E	23		
	Designated States (Regional): AT BE CH DE FR GB IT LI NL SE				
EP 136054	B				
	Designated States (Regional): AT BE CH DE FR GB IT LI NL SE				

Abstract (Basic): EP 136054 A

A ferromagnetic crystal viewer (10) is positioned over an implanted

manometer (12). A tube (14) **connects** the manometer to an isotonic saline solution filled bladder (16) to serve as a subdural pressure sensor. A tube (18) **connects** the manometer to another saline solution filled bladder (20) positioned between the scalp and skull to provide a reference atmospheric pressure. A manometer (12) forms a palpable protrusion (24) on the surface of the skin over which a mating recess (26) of the viewer fits.

The viewer contains a suspension of ferromagnetic crystals and has a transparent top surface (11) and a surrounding annular graded scale (13) which is rotatable to allow zeroing. The manometer contains a **magnetic** disc that rotates in response to changes in the pressure difference between sensor bladder (16) and reference bladder (20).

ADVANTAGE - Avoids use of externally applied electromagnetic field and implantation of radioactive material.

2/17

Abstract (Equivalent): EP 136054 B

Apparatus comprising a surgically-implantable device for transmitting from within a human or animal body information regarding an internal parameter, said device comprising generating means adapted operatively to generate a **magnetic** field **detectable** outside the body, said field having a spatial orientation with respect to said device which spatial orientation is arranged to be influenced by changes in said parameter when said device is present as an implantation within the said body, changes in said spatial orientation thus being detectable outside the body as an indication of said parameter. (13pp)

Abstract (Equivalent): US 4608992 A

The impanted device generates a **magnetic** field having an orientation influenced by chamngchanges in the internal parameter. The field is generated by one or more permanent **magnets** in the implanted device. The orientation of the field is detected externally using a viewer that provides a display of indicative of the orientation.

The display may provide an image of the **magnetic** field (e.g. a compass needle or **magnetometer**) that aligns itself with the field in a known manner. The **magnetic** field can be generated by a rotatable element on which are carried one or more permanent **magnetic** (e.g. a disc of a **magnetic** alloy such as samarium cobalt on which has been impressed **one** or more **magnetic** regiosn.

ADVANTAGE - Does not require physical **connections** to implanted device, electromagnetic field or radiation implant. (9pp)e

61/3,AB/13 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

001729580

WPI Acc No: 1977-G6074Y/197732

Inlet pressure measurement on IC engine - uses differential Hall effect element to measure movement of aneroid capsule

Patent Assignee: TEXAS INSTRUMENTS FRAN (TEXI)

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2331009	A	19770708				197732	B
US 4077262	A	19780307				197813	

Priority Applications (No Type Date): FR 7533633 A 19751104

Abstract (Basic): FR 2331009 A

A servo controlled pressure sensor is used to measure the inlet pressure of an internal combustion engine to provide information for electronic ignition and injection circuits. A pressure sensor comprises a **sealed** box (1) with an inlet (2) to a compartment containing an aneroid capsule (3) **connected** by a shaft (4) to the core (5) of an electro **magnet** (6). Measurement of core movement is sensed by a differential Hall effect device (12) placed between **two** **magnetic** poles (13) of a permanent **magnet** (11).

A shaft (10) through a screen (8) **connects** the core (5) to the **magnet** and **detected** movement is processed by an electronic circuit (14) which is also **connected** to the electro **magnet** (6). A screw (16) provides zero adjustment for mechanical errors due to manufacturing tolerances.

61/3,AB/14 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

07800399
STEERING ANGLE SENSOR AND STEERING ANGLE SENSOR INCORPORATION TYPE ROTARY **CONNECTOR** LOADED THEREWITH

PUB. NO.: 2003-294409 [JP 2003294409 A]
PUBLISHED: October 15, 2003 (20031015)
INVENTOR(s): ISHIMASA TAKESHI
APPLICANT(s): BOSCH AUTOMOTIVE SYSTEMS CORP
APPL. NO.: 2002-092781 [JP 200292781]
FILED: March 28, 2002 (20020328)

ABSTRACT

PROBLEM TO BE SOLVED: To reduce the cost of a steering angle sensor while enhancing the degree of freedom of the housing shape of the steering angle sensor, in the steering angle sensor forming constitution unnecessary for forming the whole of the steering angle sensor with high accuracy.

SOLUTION: The steering angle sensor 100 is constituted of two units, that is, a steering angle detection mechanism unit 1 and a signal processing unit 5. The steering angle detection mechanism unit 1 is constituted of a steering angle detection mechanism unit housing 11, a 'mechanism part' for rotating a **magnet** by the rotation of a steering shaft, a 'main electronic circuit board' having a **magnetic change detection** element for converting a change in **magnetism** generated by the rotation of the **magnet** to an electric signal to output the same and the lid 12 of the steering angle detection mechanism unit housing 11. The signal processing unit 5 is constituted of a signal processing unit housing 51 housing an 'auxiliary electronic circuit board', and an output **connector** 63 for outputting the output signal from the 'auxiliary electronic circuit board' to the outside.

61/3,AB/15 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

70/3,AB/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

07288415
E.I. No: EIP05098861547
Title: Thermal control of shape memory alloy artificial anal sphincters for complete implantation
Author: Luo, Yun; Okuyama, Takeshi; Takagi, Toshiyuki; Kamiyama, Takamichi; Nishi, Kotaro; Yambe, Tomoyuki
Corporate Source: Tohoku University Biomed. Eng. Research Organization, Aoba-ku, Sendai 980-8575, Japan
Source: Smart Materials and Structures v 14 n 1 February 2005. p 29-35
Publication Year: 2005
CODEN: SMSTER ISSN: 0964-1726
Language: English
Abstract: This paper presents an approach for the thermal control of an artificial anal sphincter using shape memory alloys. An artificial anal sphincter has been proposed by the authors to resolve problems of severe fecal incontinence in patients. The basic design of the artificial sphincter consists of two all-round shape memory alloy plates as the main functional parts, and heaters that are **attached** to the SMA plates for generating the thermal cycles required for the phase transformation accompanied shape changes of the plates. The SMA artificial sphincter could be fitted around intestines, performing an occlusion function at body **temperature** and a **release** function upon heating. Thermal compatibility of such prostheses is most important and is critical for practical use. Since a temperature rise of approximately 20 degree C from body temperature is needed to activate a complete transformation of SMA plates, an earlier model of ours allowed only a short period of heating, resulting in incomplete evacuation. In this work, a thermal control approach using a temperature-responsive reed switch has been incorporated into the device to prevent the SMA plates from overheating. Then, with thermal insulation the artificial anal sphincter is expected to allow a long enough opening period for fecal continence; without any thermal impact to the surrounding tissues that would be in contact with the artificial sphincter. Thermal control was confirmed in both in vitro and in vivo experiments, suggesting the effectiveness of the present approach. The modified SMA artificial anal sphincter has been implanted into animal models for chronic experiments of up to 4 weeks, and has exhibited good performance by maintaining occlusion and release functions. At autopsy, no anomaly due to thermal impact was found on the surfaces of intestines that had been in contact with the artificial anal sphincter. 17 Refs.

70/3,AB/2 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01868259 AADAAI3039886
Control of cell-liposome adhesion and liposome content release by thermally regulating polymer-lipid bilayer interaction
Author: Chandaroy, Parthapratim
Degree: Ph.D.
Year: 2002
Corporate Source/Institution: State University of New York at Buffalo (0656)
Source: VOLUME 63/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 128. 182 PAGES
ISBN: 0-493-53136-X

Liposomes have long been thought as potential drug delivery systems. One of the major problems with liposomes was their quick uptake by the phagocytic cells of the circulatory system. The advent of sterically stabilized or “stealth” liposomes, with their long circulating property, has opened the door for increased use of liposomes as targeted delivery vehicles <italic>in vivo</italic>. Poly(ethylene glycol) (PEG) is the main stealthing molecule used these days. Stealth liposomes, in different form and mechanism, are being used for a variety of purposes like drug and gene delivery, immunotherapy etc.

Another problem in using liposomes <italic>in vivo</italic> is the indiscriminate release of encapsulated materials resulting in ineffective delivery. Also the liposomes, being stealth, would not readily **adhere** to the site of interest and one way around that is to make them de-stealth at the site by some external manipulation. Several groups have attempted to locally release encapsulated material by external triggering such as temperature, pH or light. The advantage of such system is controlled release at the site of interest making the drugs more available there.

In this thesis, we have studied different polymer molecules that can cause temperature-sensitive steric protection to liposome surfaces as well as planar lipid bilayers. Additionally, these polymers can be used to unprotect a surface and trigger release of liposomal internal content by subjecting them to temperature change. We have used Pluronic molecules, which are tri-block copolymers of PEG and poly(propylene glycol) (PPG), as substitute of PEG lipid in order to form sterically protected surfaces against cell adhesion that can be made unprotected by **thermal treatment** <italic>in vitro</italic>. We have also studied the physical nature of interaction between Pluronic molecules and the liposomal bilayer during **thermal treatment**.

The important contributions of this work are temperature-sensitive steric protection and de-protection of conventional liposomes using Pluronic F127 molecule and precise **temperature**-controlled **release** of the encapsulated cargo of different molecular weights from these liposomes.

70/3,AB/3 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016483473
WPI Acc No: 2004-641416/200462
Related WPI Acc No: 1998-312197; 2000-137035; 2002-731257
XRAM Acc No: C04-230556
XRPX Acc No: N04-507187
Portable, self contained device for controlling air temperature surrounding aerolized drug formulation comprises heating element for receiving energy from power source, storing as heat energy and releasing it to surrounding air
Patent Assignee: ARADIGM CORP (ARAD-N)
Inventor: ELIAHU A; FLAIM C J; ROSELL J; SCHUSTER J A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20040163646	A1	20040826	US 96752946	A	19961121	200462	B
			US 98107306	A	19980630		
			US 2000690242	A	20001016		
			US 2001960642	A	20010920		
			US 2004773718	A	20040205		

Priority Applications (No Type Date): US 2001960642 A 20010920; US 96752946 A 19961121; US 98107306 A 19980630; US 2000690242 A 20001016; US 2004773718 A 20040205
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040163646 A1			25	A61M-016/00	CIP of application US 96752946 Cont of application US 98107306 CIP of application US 2000690242 Div ex application US 2001960642 CIP of patent US 5906202 Cont of patent US 6131570 CIP of patent US 6263872 Div ex patent US 6694975

Abstract (Basic): US 20040163646 A1
Abstract (Basic):

NOVELTY - A device (40) comprises a heating element (2) for receiving energy from self-contained, portable power source (1) and storing as heat energy during **preheat treatment**; and a housing surrounding (2) and defining an air-flow path (11) for flowing the air over (2) to transfer heat to the air during an air warming operation.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for dissipating power to store heat in heating element (2) of device (40) and releasing the stored heat to warm air for evaporating the composition containing active formulation (16) involves:

(a) supplying power from portable power source (1) to heating element (2);

(b) storing heat; and

(c) flowing air over heating element (2) after achieving the predetermined **temperature** for **releasing** heat to the flowing air.

USE - For controlling air temperature for use in conjunction with aerosol delivery device to warm the surrounding air; for delivery of aerosols which measures ambient humidity and/or measures ambient temperature; useful in aerosol generation devices for generating liquid solutions of drug, liquid suspensions of drug and dry powders of drug.

ADVANTAGE - The device is hand-held, portable and its thermal time constant in still air during preheat operation is greater than about 15 (preferably greater than about 20, especially greater than about 30) seconds and thermal time constant in moving air during air warming operation is less than about 15 (preferably less than about 7, especially less than about 3.5) seconds. The device can provide the particles consistent in diameter and small enough to improve repeatability and efficiency of drug delivery and can be used for ambulatory patients. The coating of the heating element with gold increases the thermal time constant in still air. The shield absorbs the heat that is lost from the heating element and acts as a secondary heat storage device. The drug can be dispersed or dissolved in the liquid carrier such as water and dispersed to a patient as dry or substantially dry particles.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of aerosol delivery device.

power source (1)
heating element (2)
flow path (11)
channel (12)
drug formulation. (16)
pp; 25 DwgNo 4/13

70/3,AB/4 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013360734
WPI Acc No: 2000-532673/200048
XRAM Acc No: C00-158625
XRPX Acc No: N00-394041
Thermally activated exhaust **treatment** device for vehicles, has insulator device with hydrogen source which eliminates need for electrical wiring
Patent Assignee: BENTELER AUTOMOTIVE CORP (BENL); BENSON D K (BENS-I); BIEL J P (BIEL-I); BURCH S D (BURC-I); HILL F B (HILL-I); KEYSER M A (KEYS-I); MEWS L (MEWS-I); RIGSBY D R (RIGS-I); TRACY C E (TRAC-I)
Inventor: BENSON D K; BIEL J P; BURCH S D; HILL F B; KEYSER M A; MEWS L; RIGSBY D R; TRACY C E
Number of Countries: 090 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200043104	A1	20000727	WO 2000US1474	A	20000121	200048 B
AU 200032117	A	20000807	AU 200032117	A	20000121	200055
US 6908595	B1	20050621	US 99116829	P	19990122	200543
			WO 2000US1474	A	20000121	
			US 2001889646	A	20010719	
US 20050271562	A1	20051208	US 99116829	P	19990122	200581
			WO 2000US1474	A	20000121	
			US 2001889646	A	20010719	
			US 2005145339	A	20050602	

Priority Applications (No Type Date): US 99116829 P 19990122; US 2001889646 A 20010719; US 2005145339 A 20050602
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200043104	A1	E	46	B01D-053/34	
					Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
					Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
AU 200032117	A			B01D-053/34	Based on patent WO 200043104
US 6908595	B1			B01D-053/34	Provisional application US 99116829 Based on patent WO 200043104
US 20050271562	A1			B01D-053/34	Provisional application US 99116829 Cont of application WO 2000US1474 Cont of application US 2001889646 Cont of patent US 6908595

Abstract (Basic): WO 200043104 A1
Abstract (Basic):
NOVELTY - An inner housing (21) has exhaust gas treating device. An outer housing (22) has walls forming the **sealed** insulation cavity (26) around inner housing. A passive temperature activated variable insulator device in outer housing has hydrogen source (32) to eliminate need for separate electrical wiring and controls temperature of that device.
DETAILED DESCRIPTION - The insulator device has reversible hydride located in a combined space with a wire mesh, between primary and

secondary outlets. A containment using in confined space holds the wire mesh and has holes to permit hydrogen to remaining portion of insulation cavity. Alternatively, the insulation cavity has a vacuum maintenance device with a container consisting of geter material, porous element allowing gas to communicate with getter and gate covering porous element to prevent gas into cavity. The gate has high melting point such that the insulation cavity is pumped down-baked and **sealed** at lower primary temperature and then gate is melted away to uncover porous element at higher secondary temperature. The gate includes material selected from a group consisting of magnesium and aluminum and a brazing material. Alternatively, the getter device has getter material to act as a vacuum pump to maintain vacuum in cavity. A multilayered radiation shield with alternating layers of insulation material and radiation energy reflective materials, is positioned in insulation cavity around inner housing. The insulating material is ceramic or fiber glass paper and defective material is copper or aluminum foil. A radiation shield of multiple layers is placed in vacuum space. The shield is cut longitudinally into separate parts which engage and cover the inner housing. Alternatively, a vacuum detector is openably **connected** to insulation cavity. The detector has a visible indicator with an element sufficiently flexible to show a vacuum drawn dimple. The exhaust treatment device has a catalytic material.

USE - For vehicles powered by internal combustion engines.

ADVANTAGE - The variable insulator device has the hydrogen source which eliminates the need for separate electrical wiring and controls the device **temperature**. The hydride **releases** hydrogen to increase conductivity when the catalyst converter is at high temperature and prevents overheating. The getter material removes gases from cavity and helps to maintain sufficient vacuum in cavity for a longer service life.

DESCRIPTION OF DRAWING(S) - The figure shows cross-sectional view of catalytic converter.

Inner housing (21)
Center housing (22)
Insulation cavity (26)
Hydrogen source (32)
pp; 46 DwgNo 1/28

70/3,AB/5 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

06000531
TRANSFER TYPE MAGNETIC RECORDING MEDIUM AND ITS PRODUCTION

PUB. NO.: 10-283631 [JP 10283631 A]
PUBLISHED: October 23, 1998 (19981023)
INVENTOR(s): TAKAHASHI HARUYUKI
MAEYA TAKAO
APPLICANT(s): TOKYO JIKI INSATSU KK [366115] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-089031 [JP 9789031]
FILED: April 08, 1997 (19970408)

ABSTRACT

PROBLEM TO BE SOLVED: To execute a **thermal** hardening **treatment** in a roll form without the occurrence of blocking between a base body and an **adhesive** layer and to simultaneously and integrally form a

release layer, **magnetic** layer and **adhesive** layer with one time of running of a coating machine by incorporating resin beads of fine grains having a particle size above the effective thickness of the **adhesive** layer into the **adhesive** layer.
SOLUTION: The release layer 2, the magnetic layer 3 and the **adhesive** layer 4 are successively laminated on the substrate 1. The resin beads 5 having grain size above the effective thickness of the **adhesive** layer 4 are incorporated into the **adhesive** layer 4. The particulates of a tetrafluoroethylene resin, silicone resin, etc., are used and the particles having low surface activity are selected. The grain size of the resin beads 5 is specified to the effective thickness t of the **adhesive** layer 4 or above and is regulated to the film thickness of the magnetic layer 3 or below because of the need for preventing the **adhesive** layer 4 from blocking to the substrate 1 during the **thermal** curing **treatment**, preventing the base sheet from being deformed by transfer and **sticking** at the time of production of the magnetic cards and for stably adhering the sheet at a thermal **adhesive** temperature
? DS55-

72/3,AB/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

05294859
MANUFACTURE OF **MAGNETIC** CORE

PUB. NO.: 08-250359 [JP 8250359 A]
PUBLISHED: September 27, 1996 (19960927)
INVENTOR(s): MORIUCHI SHUJI
FUNATSU JUICHIRO
APPLICANT(s): MITSUI PETROCHEM IND LTD [000588] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-048260 [JP 9548260]
FILED: March 08, 1995 (19950308)

ABSTRACT

PURPOSE: To enable a **magnetic** core to absorb or restrain its vibrations by a method wherein a **magnetic** core is impregnated and/or coated with expandable resin and then thermally treated to make resin expand.

CONSTITUTION: A **magnetic** core 8 is housed in a cavity 10, molding dies 6 and 7 are brought into firmly close contact with each other, and the **magnetic** core 8 is housed in the molding dies 6 and 7. Keeping the dies 6 and 7 in this state, molten expanding agent-containing resin composition 5 is filled into the molding dies 6 and 7 by injection from a cylinder 1, and the **magnetic** core 8 is impregnated and coated with the expanding agent-containing resin 5. Then, the molding dies 6 and 7 are opened to **release** the **magnetic** core 8. The **magnetic** core 8 is subjected to a **thermal treatment** in a heating furnace to enable expanding agent-containing resin to expand, whereby a **magnetic** core can be obtained. By this setup, a **magnetic** core absorbs or restrains its vibrations caused by **magnetostriction** so as to produce less sounds or no sound.

72/3,AB/2 (Item 1 from file: 23)
DIALOG(R)File 23:CSA Technology Research Database

0005953229 IP ACCESSION NO: 200101-33-0131
Enthalpy and Curie temperature relaxation effects in FeSiB-CuNb alloys prepared at different quenching rates

Conde, A; Blazquez, J S; Lozano-Perez, S
Universidad de Sevilla

Materials Letters (Netherlands), v 45, n 5, p 246-250, Sept. 2000
PUBLICATION DATE: 2000

PUBLISHER: Elsevier BV, North-Holland, P.O. Box 211, Amsterdam, 1000 AE
COUNTRY OF PUBLICATION: Netherlands
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PUBLISHER EMAIL: nlinfo-f@elsevier.nl

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: English

(8) method (m2) of providing carrier particle with conservative behavior characteristics in batch or **continuous stream** of **material** involving (b1) simulating **thermal treatment** of target particle until predetermined lethality is accumulated; (b2) simulating carrier particle under the same **thermal treatment** in step (b1), where carrier particle comprises interior cavity and wall; and (b3) determining conservative thickness for the wall of the carrier particle such that interior cavity of carrier particle receives same predetermined lethality as target particle under **thermal treatment** simulated in step (b1);

(9) computer-readable medium storing instructions for aiding design of carrier particle with conservative behavior characteristics in batch or **continuous stream** of **material** comprising either determining conservative behavior characteristics of target particle used in a batch or **continuous stream** of **material**, and determining material and dimensions for carrier particle design about matching conservative behavior characteristics of target particle; or simulating **thermal treatment** of target particle until predetermined lethality is accumulated, simulating carrier particle under same **thermal treatment** simulated, where carrier particle comprises interior cavity and wall; and determining a conservative thickness for the wall of the carrier particle such that the interior cavity of the carrier particle receives the same predetermined lethality as the target particle under the **thermal treatment**.

USE - For generating a temperature measurements for a batch or a **continuous stream** of **material** and for generating an environmental condition measurement in an environment (claimed).

pp; 179 DwgNo 0/90

75/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014164113
WPI Acc No: 2001-648341/200174
XRAM Acc No: C01-191284
XRPX Acc No: N01-484468
Method for generating temperature measurement for batch or **continuous stream** of **materials**, involves inserting particle having signal which changes at preset temperature and detecting signal change from particle
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N); ADLES E (ADLE-I); SIMUNOVIC J (SIMU-I); SWARTZEL K R (SWAR-I)
Inventor: ADLES E; SIMUNOVIC J; SWARTZEL K R
Number of Countries: 095 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200169193	A1	20010920	WO 2001US7850	A	20010312	200174	B
AU 200147375	A	20010924	AU 200147375	A	20010312	200208	
US 20020044590	A1	20020418	US 2000188526	P	20000310	200228	
			US 2001804366	A	20010312		
EP 1281055	A1	20030205	EP 2001920304	A	20010312	200310	
			WO 2001US7850	A	20010312		
MX 2002008835	A1	20030201	WO 2001US7850	A	20010312	200413	
			MX 20028835	A	20020910		
US 6776523	B2	20040817	US 2000188526	P	20000310	200454	
			US 2001804366	A	20010312		
US 20040213322	A1	20041028	US 2000188526	P	20000310	200471	

US 2001804366 A 20010312
US 2004855118 A 20040527

Priority Applications (No Type Date): US 2000188526 P 20000310; US 2001804366 A 20010312; US 2004855118 A 20040527

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200169193	A1	E	58	G01K-013/02	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200147375	A		G01K-013/02	Based on patent WO 200169193
US 20020044590	A1		G01K-001/14	Provisional application US 2000188526
EP 1281055	A1	E	G01K-013/02	Based on patent WO 200169193

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

MX 2002008835	A1	G01K-013/02	Based on patent WO 200169193
US 6776523	B2	A23L-003/005	Provisional application US 2000188526
US 20040213322	A1	G01K-007/00	Provisional application US 2000188526

Cont of application US 2001804366
Cont of patent US 6776523

Abstract (Basic): WO 200169193 A1

Abstract (Basic):

NOVELTY - A particle (12) having a signal that changes at specific temperature is inserted into a batch or **continuous stream**. The signal change from the particle is detected to generate a temperature measurement for batch or **continuous stream**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a method for conservatively evaluating **thermal treatment** in a continuous thermal process for a stream of particulate-containing food product;

(b) a system (10) for generating temperature measurement for a batch or **continuous stream** of **material**

USE - For generating temperature measurements in batch or continuous thermal processing of particle material, preferably particulate-containing food products; for simple (single type of solid/particulate component/ingredient) and complex (multiple and varying types of solid/particulate components/ingredients) multi-phase products such as soups, stews, particulate-containing sauces, spreads, chunked meats, etc; for process evaluation, validation and monitoring continuous thermal food processing systems, equipment and products.

ADVANTAGE - The method is novel, and assures real-time, on-line, non-contact detection of the time and place within the processing system where the center point of a conservatively constructed simulated food particle reaches one of a number of pre-selected microbially or enzymatically active (lethal) temperatures. The light color of light emitting implement segment can be selected to identify the specified switched-on temperature. Therefore, the green light in a particle can be used to indicate that the implant reached 130 degreesC, a red light to indicate 135 degreesC, a blue light to indicate 140 degreesC, and so on. Since the melting point detection is irreversible, the detected temperature remains conservative as long as the temperature of surrounding carrier fluid is monitored and confirmed to be above the level indicated by monitoring implant. Since the method is a

85/3,AB/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

06530827 INSPEC Abstract Number: A9709-8760I-001, B9705-7520C-002
Title: **Magnetic** resonance imaging of temperature changes during interstitial microwave heating: a phantom study
Author(s): Vitkin, I.A.; Moriarty, J.A.; Peters, R.D.; Kolios, M.C.; Gladman, A.S.; Chen, J.C.; Hinks, R.S.; Hunt, J.W.; Wilson, B.C.; Easty, A.C.; Bronskill, M.J.
Author Affiliation: Cancer Inst., Toronto Hospital, Ont., Canada
Journal: Medical Physics vol.24, no.2 p.269-77
Publisher: AIP for American Assoc. Phys. Med,
Publication Date: Feb. 1997 Country of Publication: USA
CODEN: MPHYA6 ISSN: 0094-2405
SICI: 0094-2405(199702)24:2L.269:MRIT;1-W
Material Identity Number: M190-97003
U.S. Copyright Clearance Center Code: 0094-2405/97/24(2)269(9)$10.00
Language: English
Abstract: **Changes** in **magnetic** resonance (MR) signals during interstitial microwave heating are reported, and correlated with simultaneously acquired temperature readings from three fiber-optic probes implanted in a polyacrylamide gel phantom. The heating by a MR-compatible microwave antenna did not interfere with simultaneous MR image data acquisition. MR phase-difference images were obtained using a fast two-dimensional-gradient echo sequence. From these images the **temperature sensitive** resonant frequency of the /sup 1/H nuclei was found to decrease approximately by 0.008 ppm/ degrees C. The method and results presented here demonstrate that noninvasive MR-temperature imaging can be performed simultaneously with interstitial microwave **thermal treatment**.
Subfile: A B

85/3,AB/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

02323130 INSPEC Abstract Number: A79028620
Title: Ferromagnetic resonance in amorphous Co-P alloys
Author(s): Kullmann, U.; Dietz, G.
Author Affiliation: II. Physikalisches Inst., Univ. zu Koln, Koln, West Germany
Journal: Journal of Magnetism and Magnetic Materials vol.9, no.1-3 p.211-13
Publication Date: Oct.-Nov. 1978 Country of Publication: Netherlands
CODEN: JMMMDC ISSN: 0304-8853
Conference Title: Proceedings of the 1978 Arbeitsgemeinschaft Magnetismus Conference
Conference Date: 6-10 March 1978 Conference Location: Freudenstadt & Bad Nauheim, West Germany
Language: English
Abstract: Ferromagnetic resonance of electrodeposited amorphous Co-P alloys was **measured** at room **temperature** . Annealing of the samples **changes** their resonance **fields** for both parallel and perpendicular orientation relative to the static **magnetic** field. This is interpreted as a change of the uniaxial **magnetic** anisotropy and the saturation polarisation of the sample which is caused by changes of

structural short range order during **thermal treatment.**
Subfile: A

85/3,AB/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

01100028 INSPEC Abstract Number: A70015371
Title: **Magnetic** properties of Cr/sub 7/Te/sub 8/
Author(s): Hashimoto, T.; Yamaguchi, M.Y.
Author Affiliation: Tokyo Inst. Technol. Oh-okayama, Meguro, Japan
Journal: Journal of the Physical Society of Japan vol.27, no.5 p. 1121-6
Publication Date: Nov. 1969 Country of Publication: Japan
CODEN: JUPSAU ISSN: 0031-9015
Language: English
Abstract: Cr/sub 7/Te/sub 8/ exhibits two types of crystal structure according to the difference of **thermal treatment**; one is the ordered and the other is the disordered arrangements of the vacancies among the successive Cr layers. The saturation moments and the **magnetic** susceptibilities of both structures are **measured** in the **temperature** range from 77 degrees K to 1000 degrees K. It is observed that the **magnetic** properties depend largely on the arrangements of the vacancies. In addition, at 4.2 degrees K **two** nuclear **magnetic** resonance absorption lines are observed at 45.1 and 58.2 MHz in the ordered samples whereas a very broad absorption line is observed in the disordered samples. These absorption lines may be considered as Cr/sup 53/-signals from the measurements in the external **magnetic** field. It seem that these **magnetic** and NMR data are interpreted by the ionic model, though the interpretation includes some degree of incompleteness.
Subfile: A

85/3,AB/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

0000256860 INSPEC Abstract Number: 1935B02361
Title: Heat treatment of **magnetic** materials in a **magnetic** field. I and II
Author(s): Dillinger, J.F.; Bozorth, R.M.
Journal: Physics 6 p.279-291
Publication Date: Sept. 1935 Country of Publication: USA
Language: English
Abstract: Part I. The effect of heat treatment on the **magnetic** properties of Fe-Ni-Co alloys in a **magnetic** field is investigated for a number of these alloys. A maximum change for the Fe-Ni alloys occurs between 65 and 70% Ni, when a large increase in maximum permeability is observed, together with a hysteresis loop of rectangular shape. All the alloys with Curie points above 500(deg)C. and with no hase transformations have their properties similarly changed. Prolonged preliminary annealing in the **field** enhances this **change** and hi the case of permalloy (65% Ni), after annealing for 18 hr. at 1400(deg)C., a maximum permeability of 6 x10 SUP 5 has obtained. The **magnetic** properties of alloys treated in this way appear to be insensitive to stress, but at the same time they are highly anisotropic; in some cases the maximum permeability in one direction may be 150 times as great as in that at right angles. Part II. The nature of the changes occurring in the maximum permeability by **thermal treatment** is studied in more detail for 2 alloys, one

containing 35% Fe and 65% Ni (permalloy) and the other 20% Fe, 60% Co and 20% Ni (perminvar). These alloys, if heat treated in a field of 10 gauss at temperatures above 400(deg)C. but below the Curie point, show a large increase in maximum permeability. The time during which the **magnetic** properties **change** is **measured** at different **temperatures** and is found to follow the law tau = Ae SUP W/ k T , where A is 10 SUP -12 sec. and W is 2.1 electron volts, values which are in agreement with those previously derived by Bragg and Williams. An interpretation of the results is given in terms of the domain theory of ferromagnetism, and it is suggested that the changes which occur are due to the relief of **magnetostrictive** stresses which arise when the material becomes ferromagnetic on cooling through the Curie point or when an external field is applied, the relief coming about by plastic flow or diffusion in the separate domains.

Subfile: B

85/3,AB/5 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

0000200106 INSPEC Abstract Number: 1928A01054

Title: **Magnetostriction** of iron, nickel, cobalt and their alloys

Author(s): Schulze, A.

Journal: Zeitschrift fur Technische Physik 8 11 p.495-502

Publication Date: 1927 Country of Publication: Germany

Language: English

Abstract: The change in the length of ferromagnetic bodies accompanying their **magnetisation** is **measured** at ordinary **temperature** by fixing the movable plate of a condenser to the end of a rod of the material, 33 cm. long, 6 mm. diameter, and observing the change in the capacity by heterodyning with the aid of a Zickner differential condenser. Pure iron expands in fields of up to 70 gauss; the dilatation then decreases, crosses zero at 230 gauss and becomes negative. Nickel contracts more and more as the field intensity is increased; alloys of the two metals may expand or contract. The 15 alloys tested were prepared with 1 or 2% Mn to facilitate machining. The curves of **magnetostriction** have **two** expansion maxima, separated by a zero value for 30% Ni (non-**magnetic** alloy). Near 80% Ni the curves once more cross the zero line, and the striction becomes negative; both the maxima and minima are the higher, the stronger the field. Permalloy (78% Ni), which is very sensitive in its high permeability to mechanical stress, shows no **magnetostriction**, and the **magnetostriction** is, in the reversible region, independent of the **thermal treatment** . According to Arnold and Elmen, permalloy should slowly be cooled from 900(deg) to 600(deg); according to Gumlich, rapid cooling is nearly as good. Thus the high initial permeability of permalloy does not seem to be directly connected with the **magnetostriction**, while **magnetostriction** and field intensity (especially the true internal field intensity) go together in their variations. Cobalt itself does not **change** in weak **fields** , but contracts in stronger fields. In alloys containing 10 and 20% Fe the cobalt contraction still predominates; with 30% Fe dilatation sets in and rises to more than double the value it has in Fe-Ni alloys. The curves plotting Delta l / l against concentration show the same peaks as electric conductivity, temperature coefficient of resistance and thermal expansion. Alloys of cobalt, nickel show in fields of up to 350 gauss the contraction of the two constituent metals; in stronger fields dilatation seems to set in. Cast cobalt behaves, according to Honda, opposite to cast iron; it contracts in weak fields and expands in

7/3,AB/1 (Item 1 from file: 434)
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

05369099 Genuine Article#: RJ502 Number of References: 30
Title: TUBULAR HEAT-EXCHANGER FOULING BY MILK DURING ULTRA HIGH-TEMPERATURE PROCESSING
Author(s): **SWARTZEL KR**
Corporate Source: N CAROLINA STATE UNIV,DEPT FOOD SCI & BIOL/RALEIGH//NC/27650; N CAROLINA STATE UNIV,DEPT AGR ENGN/RALEIGH//NC/27650
Journal: JOURNAL OF FOOD SCIENCE, 1983, V48, N5, P1507&
Language: ENGLISH Document Type: ARTICLE

7/3,AB/2 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01809309 AADAAI9938377
Particle flow monitoring in multiphase aseptic systems
Author: **Simunovic, Josip**
Degree: Ph.D.
Year: 1998
Corporate Source/Institution: North Carolina State University (0155)
Source: VOLUME 60/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 3038. 228 PAGES
ISBN: 0-599-39676-8

The study describes the development and testing of two methods for residence time and velocity measurement for particles in multiphase food products, thermally processed in continuous aseptic systems: Color code/Digital video method and **Magnetic** ID/Timed Injection Particle System.

The primary objective was the development of a method for measurement and study of individual particle residence times in the holding section of aseptic processing systems. Both developed methods are, however, device-independent. Color code/digital video method can measure residence times and point-to-point coded particle velocities in any process component or system fitted with entry and exit transparent sections, using a transparent carrier fluid. **Magnetic** ID/Timed Injection Particle System can be additionally used with any system/process configuration and geometry, including all-stainless steel equipment and opaque carrier fluids.

Particle characteristics relationships to particle velocity and velocity measurement were investigated and analyzed with a particular emphasis on particle density. Density control and compensation was proposed as the strategy to ensure conservative flow behavior of simulated particles used in residence time measurement and biovalidation steps of continuous process establishment and validation. Conservative particle density, critical density, density compensation, density range scan and analysis are defined and procedures proposed for their implementation. The need for experimental determination of the critical density for each product/process/system combination is emphasized.

Prototype system for **magnetic** ID coding, sensing and recognition was designed and tested. The system provides the potential for significant savings in time and product expended for aseptic process establishment and validation. The unique features of the method are high sensitivity and the potential for integration with other critical process parameter monitoring

by including additional sensors both within the simulated particles and in the vicinity of **magnetic** field detectors. The inclusion of bioloads such as bacterial spores within the simulated particles could provide a means of addressing issues of spore leaching and spore recovery quantification, and other types of chemical or biological indicators could be used for the quantification of process impact on product quality.

The study presents the theoretical, practical and procedural basis for particle flow monitoring in continuous aseptic processing systems, both as an experimental tool for segment and system comparison and optimization, and as an integrated control tool for safety establishment and quality assurance.

7/3,AB/3 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016446299
WPI Acc No: 2004-604215/200458
XRAM Acc No: C04-218891
XRPX Acc No: N04-477987
Magnetically detectable particle useful for generating temperature measurements for batch or continuous stream of material comprises **first** and **second magnet** containing positive and negative pole; and adhesive having release temperature
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: **PALAZOGLU T K; SANDEEP K P; SIMUNOVIC J; SWARTZEL K R**
Number of Countries: 108 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200467786	A2	20040812	WO 2004US2335	A	20040128	200458	B
US 20040228387	A1	20041118	US 2003443298	P	20030128	200477	
			US 2004767427	A	20040128		
AU 2004208147	A1	20040812	AU 2004208147	A	20040128	200553	

Priority Applications (No Type Date): US 2003443298 P 20030128; US 2004767427 A 20040128
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200467786	A2	E	179	C21D-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

US 20040228387 A1	G01K-007/00	Provisional application US 2003443298	
AU 2004208147 A1	G01K-007/36	Based on patent WO 200467786	

Abstract (Basic): WO 200467786 A2
Abstract (Basic):
NOVELTY - A **magnetically** detectable particle comprises a **first** and **second magnet** containing a positive and negative pole; and an adhesive having a release temperature.
DETAILED DESCRIPTION - A **magnetically** detectable particle (P1) comprises a **first** and **second magnet** containing a

positive and negative pole; and an adhesive having a release temperature, which attaches either positive or negative poles of the **first magnet** proximate to the same polarity pole of the **second magnet**, or between the poles of the **second magnet** below the release temperature so a **first magnetic** field is generated by the **magnets** and releases the **magnets** from **one** another above the release temperature. The **first** and **second magnets** move when the adhesive releases the **magnets** such that the poles of the **first magnet** moves toward the opposing polarity pole of the **second magnet** for generating a **magnetic** field different than the **first magnetic** field to indicate a temperature measurement.

INDEPENDENT CLAIMS are included for:

(1) a system (s1) containing (P1), and a detector;

(2) a **magnetically** detectable particle (P2) for generating temperature measurements for a batch or a continuous stream of material comprising a first, **second** and third **magnet**; a **first** adhesive having a first release temperature and attaching the negative pole of the **first magnet** to the negative polarity pole of the **second magnet** below the **first** release temperature, and releases the **first** and **second magnets** from **one** another above the first release temperature; and a second adhesive having a second release temperature and attaching the positive pole of the third **magnet** to the positive pole of the **second magnet** below the **first** release temperature, and releases the **second** and third **magnets** from **one** another above the first release temperature, where a **first magnetic** field is generated by the first, **second**, and third **magnets** when the **first magnet** and third **magnets** are attached to the **second magnet**. The **first** and **second magnets** move with respect to one another when the first adhesive releases the **first** and **second magnets** such that the positive pole of the **first magnet** moves toward the negative pole of the **second magnet** for generating a **second magnetic** field different than the **first magnetic** field to indicate a first temperature measurement for the batch or continuous stream. The **second** and third **magnets** move with respect to one another when the second adhesive releases the **second** and third **magnets** such that the negative pole of the third **magnet** moves toward the positive pole of the **second magnet** for generating a third **magnetic** field different than the **first magnetic** field to indicate a second temperature measurement for the batch or continuous stream;

(3) a **magnetically** detectable particle (P3) comprises a **first** and **second magnet** containing a positive and negative pole; and an adhesive. The adhesive attaches either one of the poles of the **first magnet** to the same polarity pole of the **second magnet**, or the poles of the **second magnet** when a predetermined environmental condition is not detected. A **first magnetic** field is generated by the **first** and **second magnet** and releases the **first** and **second magnets** from **one** another when the predetermined environment condition is detected. The **first** and **second magnets** move with respect to one another when the adhesive releases the **first** and **second magnets** such that **one** of the positive and negative poles of the **first magnet** moves toward the opposing polarity pole of the **second magnet** for generating a **second magnetic**

field different than the **first magnetic** field to indicate a temperature measurement for the batch or continuous stream;

(4) a carrier particle (P4) comprising at least one of (P1), (P2) and/or (P3);

(5) a device for generating a temperature measurement for the batch or continuous stream of material, where the detectable particle comprising a detectable particle comprising a signal which changes at a predetermined temperature; and a carrier particle (P5) comprising an interior cavity holding the detectable particle. The carrier particle comprises a conservative behavior characteristic matching a target particle. The thermal protection provided by the carrier particle to the interior cavity is at least conservative thermal behavior of a target particle at its cold spot under similar heating conditions;

(6) generating a temperature measurements for a batch or a continuous stream of material involving either (a1) inserting (P1) into the batch or continuous stream; and detecting a change in **magnetic** field strength of (P1) to generate a temperature measurement for the batch or continuous stream, or (a2) inserting the device into the batch or continuous stream; and detecting a signal change of the device to generate a temperature measurement for the batch or continuous stream;

(7) method (m1) of providing a carrier particle with conservative behavior characteristics in a batch or continuous stream of material involving either determining conservative behavior characteristics of a target particle found in a batch or continuous stream of material; and determining material and dimensions for a carrier particle design which substantially corresponds to at least one conservative behavior characteristics of the target particle;

(8) method (m2) of providing carrier particle with conservative behavior characteristics in batch or continuous stream of material involving (b1) simulating thermal treatment of target particle until predetermined lethality is accumulated; (b2) simulating carrier particle under the same thermal treatment in step (b1), where carrier particle comprises interior cavity and wall; and (b3) determining conservative thickness for the wall of the carrier particle such that interior cavity of carrier particle receives same predetermined lethality as target particle under thermal treatment simulated in step (b1);

(9) computer-readable medium storing instructions for aiding design of carrier particle with conservative behavior characteristics in batch or continuous stream of material comprising either determining conservative behavior characteristics of target particle used in a batch or continuous stream of material, and determining material and dimensions for carrier particle design about matching conservative behavior characteristics of target particle; or simulating thermal treatment of target particle until predetermined lethality is accumulated, simulating carrier particle under same thermal treatment simulated, where carrier particle comprises interior cavity and wall; and determining a conservative thickness for the wall of the carrier particle such that the interior cavity of the carrier particle receives the same predetermined lethality as the target particle under the thermal treatment.

USE - For generating a temperature measurements for a batch or a continuous stream of material and for generating an environmental condition measurement in an environment (claimed).

pp; 179 DwgNo 0/90

7/3,AB/4 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015506809
WPI Acc No: 2003-568956/200353
Related WPI Acc No: 2004-313886; 2004-561621
XRAM Acc No: C03-153374
XRPX Acc No: N03-452531

Molecular sensing apparatus useful for detecting an analyte e.g. protein in a sample, comprises two electrodes, a spacer between the electrodes and a biological macromolecule connecting the electrodes

Patent Assignee: GENORX INC (GENO-N); KUNWAR S (KUNW-I); MATHAI G T (MATH-I); PISHARODY S M (PISH-I); SANDEEP K (SAND-I); SOBHA M P (SOBH-I)
Inventor: KUNWAR S; MATHAI G T; PISHARODY S M; **SANDEEP K**; SOBHA M P

Number of Countries: 098 Number of Patents: 009
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200342396	A2	20030522	WO 2002US18319	A	20020610	200353 B
US 20040023253	A1	20040205	US 2001297583	P	20010611	200411
			US 2001970087	A	20011002	
			US 2002378938	P	20020510	
			WO 2002US18319	A	20020610	
			US 2002335482	A	20021226	
EP 1417352	A2	20040512	EP 2002799869	A	20020610	200431
			WO 2002US18319	A	20020610	
US 20040146863	A1	20040729	US 2001297583	P	20010611	200450
			US 2001970087	A	20011002	
AU 2002363627	A1	20030526	AU 2002363627	A	20020610	200464
US 6824974	B2	20041130	US 2001297583	P	20010611	200479
			US 2001970087	A	20011002	
US 20040248282	A1	20041209	US 2001297583	P	20010611	200481
			US 2002378938	P	20020510	
			WO 2002US18319	A	20020610	
			US 2004480409	A	20040716	
JP 2005509846	W	20050414	WO 2002US18319	A	20020610	200527
			JP 2003544210	A	20020610	
US 20050130296	A1	20050616	US 2001297583	P	20010611	200540
			US 2001970087	A	20011002	
			US 2004941176	A	20040914	

Priority Applications (No Type Date): US 2002378938 P 20020510; US 2001297583 P 20010611; US 2001970087 A 20011002; US 2002335482 A 20021226 ; US 2004941176 A 20040914

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200342396	A2	E	106	C12Q-000/00	
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW					
US 20040023253	A1			C12Q-001/68	Provisional application US 2001297583
					CIP of application US 2001970087
					Provisional application US 2002378938
					CIP of application WO 2002US18319
EP 1417352	A2	E		C12Q-001/68	Based on patent WO 200342396
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
US 20040146863	A1			C12Q-001/68	Provisional application US 2001297583

AU 2002363627 A1		C12Q-000/00	Based on patent WO 200342396
US 6824974	B2	C12Q-001/00	Provisional application US 2001297583
US 20040248282 A1		C12M-001/34	Provisional application US 2001297583
			Provisional application US 2002378938
JP 2005509846 W	60	G01N-027/02	Based on patent WO 200342396
US 20050130296 A1		C12M-001/34	Provisional application US 2001297583
			Cont of application US 2001970087
			Cont of patent US 6824974

Abstract (Basic): WO 200342396 A2

Abstract (Basic):

NOVELTY - A molecular sensing apparatus comprising a first electrode (10), a second electrode (12), a spacer (16) between the first and the second electrode, and a biological macromolecule connecting the first electrode to the second electrode, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) making a molecular sensing apparatus, involves:

(i) providing a first electrode and a second electrode separated by an insulator;

(ii) contacting the first and second electrode with a first solution comprising a biological macromolecule;

(iii) placing a charge on the first electrode to attract the biological macromolecule to the first electrode when the macromolecule attaches to the first electrode to form an attached macromolecule; and

(iv) placing a charge on the second electrode to attract a portion of the attached macromolecule to the second electrode where the macromolecule attaches to the second electrode; and

(2) an array of biological macromolecules, comprises a solid support comprising several non-planar surfaces at a density of greater than 500 surfaces/cm2 and at least one type of biological macromolecule attached to each surface.

USE - (I) is useful for detecting an analyte, preferably a protein or protein complex (claimed). The analytes include whole cell, a subcellular particle, virus, prion, viroid, nucleic acid, antigen, lipoprotein, lipopolysaccharide, lipid, glycoprotein, carbohydrate moiety, cellulose derivative, antibody or its fragment, peptide, hormone, pharmacological agent, cell or cellular components, organic compounds, non-biological polymer, synthetic organic molecule, organo-metallic compounds or inorganic molecules present in the sample. The sample can be derived from a body fluid, or tissues, water, food, blood, serum, plasma, urine, feces, tissue, saliva, oils, organic solvents, earth, water, air or food products.

ADVANTAGE - As the biosensors provide a change in conductance or charge flow when bound by the target analyte, they are easily read using electronic/electrochemical methods, and do not require the use of detectable labels or external electron donors or acceptors.

DESCRIPTION OF DRAWING(S) - The drawing shows a basic biosensor.

Electrodes (10, 12)

Spacer (16)

pp; 106 DwgNo 1A/25

7/3,AB/5 (Item 3 from file: 350)

014164113
WPI Acc No: 2001-648341/200174
XRAM Acc No: C01-191284
XRPX Acc No: N01-484468
Method for generating temperature measurement for batch or continuous stream of materials, involves inserting particle having signal which changes at preset temperature and detecting signal change from particle
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N); ADLES E (ADLE-I); SIMUNOVIC J (SIMU-I); SWARTZEL K R (SWAR-I)
Inventor: ADLES E; **SIMUNOVIC J; SWARTZEL K R**
Number of Countries: 095 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200169193	A1	20010920	WO 2001US7850	A	20010312	200174 B
AU 200147375	A	20010924	AU 200147375	A	20010312	200208
US 20020044590	A1	20020418	US 2000188526	P	20000310	200228
			US 2001804366	A	20010312	
EP 1281055	A1	20030205	EP 2001920304	A	20010312	200310
			WO 2001US7850	A	20010312	
MX 2002008835	A1	20030201	WO 2001US7850	A	20010312	200413
			MX 20028835	A	20020910	
US 6776523	B2	20040817	US 2000188526	P	20000310	200454
			US 2001804366	A	20010312	
US 20040213322	A1	20041028	US 2000188526	P	20000310	200471
			US 2001804366	A	20010312	
			US 2004855118	A	20040527	

Priority Applications (No Type Date): US 2000188526 P 20000310; US 2001804366 A 20010312; US 2004855118 A 20040527
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200169193	A1	E	58	G01K-013/02	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200147375	A		G01K-013/02	Based on patent WO 200169193
US 20020044590	A1		G01K-001/14	Provisional application US 2000188526
EP 1281055	A1	E	G01K-013/02	Based on patent WO 200169193

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

MX 2002008835	A1		G01K-013/02	Based on patent WO 200169193
US 6776523	B2		A23L-003/005	Provisional application US 2000188526
US 20040213322	A1		G01K-007/00	Provisional application US 2000188526
				Cont of application US 2001804366
				Cont of patent US 6776523

Abstract (Basic): WO 200169193 A1
Abstract (Basic):

NOVELTY - A particle (12) having a signal that changes at specific temperature is inserted into a batch or continuous stream. The signal change from the particle is detected to generate a temperature measurement for batch or continuous stream.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) a method for conservatively evaluating thermal treatment in a continuous thermal process for a stream of particulate-containing food

product;
(b) a system (10) for generating temperature measurement for a batch or continuous stream of material

USE - For generating temperature measurements in batch or continuous thermal processing of particle material, preferably particulate-containing food products; for simple (single type of solid/particulate component/ingredient) and complex (multiple and varying types of solid/particulate components/ingredients) multi-phase products such as soups, stews, particulate-containing sauces, spreads, chunked meats, etc; for process evaluation, validation and monitoring continuous thermal food processing systems, equipment and products.

ADVANTAGE - The method is novel, and assures real-time, on-line, non-contact detection of the time and place within the processing system where the center point of a conservatively constructed simulated food particle reaches one of a number of pre-selected microbially or enzymatically active (lethal) temperatures. The light color of light emitting implement segment can be selected to identify the specified switched-on temperature. Therefore, the green light in a particle can be used to indicate that the implant reached 130 degreesC, a red light to indicate 135 degreesC, a blue light to indicate 140 degreesC, and so on. Since the melting point detection is irreversible, the detected temperature remains conservative as long as the temperature of surrounding carrier fluid is monitored and confirmed to be above the level indicated by monitoring implant. Since the method is a non-metallic approach, it can be used with electrical and electromagnetically treated products. By monitoring the stream and heat penetration into a single or a plurality of simulated particles with pre-selected single-temperature range indicators, and by using multiple populations of such particles, each population designed, constructed and calibrated to a different temperature range, conservative process evaluation and validation can be achieved and documented in a simple, robust and reliable way. Therefore, in addition to conservative construction characteristics of the simulated particles (appropriate/critical density adjustment and conservative/low thermal conductivity), the method for the first time implements a conservative method for real-time non-contact temperature detection of thermal-detection implants used within simulated or real particles in a batch or continuous stream through a processing system.

DESCRIPTION OF DRAWING(S) - The figure shows schematic view of a system with thermal processing apparatus.

System (10)
Particle (12)
Implant (14)
Shield material (16)
Sensors (24A-24D)
pp; 58 DwgNo 1A/12

7/3,AB/6 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012496245
WPI Acc No: 1999-302353/199925
XRAM Acc No: C99-088627
XRPX Acc No: N99-226526
Determining residence time of food particles in continuous thermal processing
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N); SIMUNOVIC J (SIMU-I); SWARTZEL K R (SWAR-I)

Inventor: **SIMUNOVIC J; SWARTZEL K R**
Number of Countries: 083 Number of Patents: 012
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9918416	A1	19990415	WO 98US15521	A	19980728	199925	B
AU 9885934	A	19990427	AU 9885934	A	19980728	199936	
US 5932813	A	19990803	US 97946277	A	19971007	199937	
US 6015231	A	20000118	US 97946277	A	19971007	200011	
			US 99301921	A	19990429		
EP 1019680	A1	20000719	EP 98937153	A	19980728	200036	
			WO 98US15521	A	19980728		
MX 2000003464	A1	20001101	MX 20003464	A	20000407	200163	
AU 749423	B	20020627	AU 9885934	A	19980728	200254	
US 6536947	B1	20030325	US 97946277	A	19971007	200325	
			US 99301921	A	19990429		
			US 99443715	A	19991119		
US 20030177842	A1	20030925	US 97946277	A	19971007	200364	
			US 99301921	A	19990429		
			US 99443715	A	19991119		
			US 2003396912	A	20030325		
AU 2002301264	A1	20030227	AU 9885934	A	19980728	200427	N
			AU 2002301264	A	20020926		
US 6766699	B2	20040727	US 97946277	A	19971007	200449	
			US 99301921	A	19990429		
			US 99443715	A	19991119		
			US 2003396912	A	20030325		
MX 218274	B	20031217	WO 98US15521	A	19980728	200470	
			MX 20003464	A	20000407		

Priority Applications (No Type Date): US 97946277 A 19971007; US 99301921 A 19990429; US 99443715 A 19991119; US 2003396912 A 20030325; AU 2002301264 A 20020926
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9918416	A1	E	108	G01F-001/708	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 9885934	A				Based on patent WO 9918416
US 5932813	A			G01F-001/708	
US 6015231	A			G01K-003/04	Div ex application US 97946277
EP 1019680	A1	E		G01F-001/708	Based on patent WO 9918416
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU LV MC MK NL PT RO SE SI					
MX 2000003464	A1			G01F-001/708	
AU 749423	B			G01F-001/708	Previous Publ. patent AU 9885934
					Based on patent WO 9918416
US 6536947	B1			G01K-003/04	Div ex application US 97946277
					Div ex application US 99301921
					Div ex patent US 5932813
					Div ex patent US 6015231
US 20030177842	A1			G01F-001/708	Div ex application US 97946277
					Div ex application US 99301921
					Div ex application US 99443715
					Div ex patent US 5932813
					Div ex patent US 6015231
					Div ex patent US 6536947

AU 2002301264	A1	G01F-001/708	Div ex application AU 9885934
US 6766699	B2	G01F-001/708	Div ex application US 97946277
			Div ex application US 99301921
			Div ex application US 99443715
			Div ex patent US 5932813
			Div ex patent US 6015231
			Div ex patent US 6536947
MX 218274	B	G01F-001/708	Based on patent WO 9918416

Abstract (Basic): WO 9918416 A1
Abstract (Basic):

NOVELTY - The residence time of food particles in continuous thermal processing is determined by inserting detectable particles tagged with **magnetic** implant into stream at intervals selected to give maximum number of particles in minimum stream quantity; detecting particles downstream with sensor able to detect 0.05 oersted at zero velocity; and determining time of passage and residence time of stream.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for: a) a method for conservatively evaluating thermal treatment of food by inserting particles tagged with **magnetic** implant and carrying cargo component which provides thermal history of particle; particle has lower thermal conductivity than any food particle; b) a system for inserting detectable particles into stream; detecting passage of particles and calculating residence time. Preferred Features: The sensor detects 0.5 to 20 oersted. The particle density, size or shape is selected to give conservative residence time determination, i.e. give faster passage time. The **magnetic** implant is neodymium iron boron, cobalt rare earth, aluminum-nickel, ceramic, organic, plastic-embedded metal, or combinations of these. Multiple sensors are used. A sensor is located near the stream using a gasket. Each detectable particle has a different **magnetic** identification. The cargo component is a thermal memory cell or a microbial load, or a combination; an inert material or an actual food particle; a transponder or combinations of these. Detection takes place after packaging. The carrier is polystyrene, polypropylene, and copolymers and combinations.

USE - Determining residence time of food particles in multiphase food mixture undergoing continuous thermal processing and packaging.

ADVANTAGE - The method gives a conservative estimate of residence time, ensuring that thermal treatment is adequate to kill microorganisms. The method utilizes a smaller portion of the food stream than conventional testing methods. The method can be used in a wide range of applications.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic of the detection method.

tagged particle (10)
magnetic implant (14)
hopper (30)
process pipe (32)
magnetoresistive sensors (40a,b,c)
straps (50)
processor (42)
pp; 108 DwgNo 9b/16

10/3,AB/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03302758
E.I. Monthly No: EIM9109-044040
Title: Center for aseptic processing and packaging studies - an overview.
Author: Schwartz, Steven J.; **Swartzel, Kenneth R.**; Giles, Joanne B.
Corporate Source: North Carolina State Univ, Raleigh, NC, USA
Conference Title: News in Aseptic Processing and Packaging
Conference Location: Espoo, Finl Conference Date: 19910130
E.I. Conference No.: 14541
Source: VTT Symposium (Valtion Teknillinen Tutkimuskeskus) n 119. Publ by Technical Research Cent of Finland, Espoo 15, Finl. p 17-20
Publication Year: 1991
CODEN: VTTSE9 ISSN: 0357-9387
Language: English
Abstract: As an Industry/University Cooperative Research Center (IUCRC), the Center for Aseptic Processing and Packaging Studies (CAPPS) provides a mechanism by which the resources and expertise of universities are aligned to perform basic long-range industrially relevant research. Four important components of the organizational structure are academic policy committee (APC); industrial advisory board (IAB), industrial monitors and the center evaluator. Research projects of the Center are underway in four basic research areas: integrity control - measurement of **thermal treatment** and process evaluation; product properties - chemical changes and reactions responsible for color, flavor and nutritional alterations; and thermal and viscometric properties of fluid biomaterials; surface characteristics and interactions - adherence of bacterial spores to product contact surface; chemical effects on spore adherence; and fluid component interactions with contact surfaces; non-traditional processing - incorporation of irradiation and incorporation of bioreactors.

10/3,AB/2 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02067988
E.I. Monthly No: EIM8601-005251
Title: MAXIMUM PRODUCT PARAMETER CHANGES IN LIQUID FOODS.
Author: Hamid-Samimi, M. H.; **Swartzel, K. R.**
Corporate Source: North Carolina State Univ, Dep of Food Science & Biological & Agricultural Engineering, Raleigh, NC, USA
Conference Title: 1984 Winter Meeting - American Society of Agricultural Engineers: Engineering the Future - Capitalizing on the New Technologies.
Conference Location: New Orleans, LA, USA Conference Date: 19841211
E.I. Conference No.: 07199
Source: Paper - American Society of Agricultural Engineers Publ by ASAE, St. Joseph, MI, USA Pap 84-6506, 26p
Publication Year: 1984
CODEN: AAEPCZ ISSN: 0145-0166
Language: English
Abstract: A fluid in continuous flow heating receives higher and higher **thermal treatment** as its velocity profile approaches plug flow conditions. This situation is investigated for soluble protein loss (SPL) and viscosity change in liquid whole egg (LWE). Arrhenius mathematical forms are used for SPL and viscosity. Time and temperature schedules are suggested for pasteurization of LWE at elevated temperatures and shorter

times based on plug flow velocity profile assumption. (Author abstract)
Refs.

10/3,AB/3 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

14687813 Genuine Article#: 995MT Number of References: 20
Title: Aseptic processing of sweetpotato purees using a continuous flow microwave system (ABSTRACT AVAILABLE)
Author(s): Coronel P; Van-Den Truong (REPRINT) ; **Simunovic J;** **Sandeep KP;** Cartwright GD
Corporate Source: USDA ARS,Box 7624/Raleigh//NC/27695 (REPRINT); USDA ARS,Raleigh//NC/27695; N Carolina State Univ,Dept Food Sci,Raleigh//NC/27695(vtruong@unity.ncsu.edu)
Journal: JOURNAL OF FOOD SCIENCE, 2005, V70, N9 (NOV-DEC), PE531-E536
ISSN: 0022-1147 Publication date: 20051100
Publisher: INST FOOD TECHNOLOGISTS, 525 WEST VAN BUREN, STE 1000, CHICAGO, IL 60607-3814 USA
Language: English Document Type: ARTICLE
Abstract: Sweetpotato purees (SPP) were aseptically processed using a continuous flow microwave system to obtain a shelf-stable product. The dielectric properties of SPP were measured, and the dielectric constant and loss factor were within the range of the published values for fruits and vegetables. Small-scale tests were conducted in a 5-kW microwave unit to determine changes in color and viscosity with different **thermal treatments**. The results of these tests showed that color values (L*, a*) and viscosity did not change significantly compared with the untreated control. Pilot-scale tests were then conducted in a 60-kW microwave unit where the product was heated to 135 degrees C and held at that temperature for 30 s. The pilot-scale test produced a shelf-stable product with no detectable microbial count during a 90-d storage period at room temperature. This is the 1st report of aseptically packaged vegetable puree processed by a continuous flow microwave heating system.

10/3,AB/4 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04421455 Genuine Article#: TC332 Number of References: 0
(NO REFS KEYED)
Title: DEVELOPMENT OF SUCROSE INVERSION KINETICS UNDER CONTINUOUS-FLOW CONDITIONS (Abstract Available)
Author(s): MILES JJ; **SWARTZEL KR**
Corporate Source: MICROTHERM INC,5024-F DEPARTURE DR/RALEIGH//NC/27604; N CAROLINA STATE UNIV,DEPT FOOD SCI/RALEIGH//NC/27695
Journal: JOURNAL OF FOOD QUALITY, 1995, V18, N5 (OCT), P369-378
ISSN: 0146-9428
Language: ENGLISH Document Type: ARTICLE
Abstract: Reaction kinetic data for the acid hydrolysis of sucrose were generated during continuous flow **thermal treatment**. Predicted levels of hydrolysis were calculated using batch-generated kinetic parameters and the equivalent point method of thermal evaluation. Actual and simulated levels of hydrolysis were linearly correlated ($r > 0.98$). Evaluation of hydrolysis data for isothermal and non-isothermal operations, using the equivalent point method supported first order kinetics, and yielded Arrhenius parameters resembling batch

generated values. Experimental activation energy, Ea, values ranged from 100.2 to 119.7 kJ/mole, which is in agreement with literature values which range from 99 to 106 kJ/mole.

10/3,AB/5 (Item 1 from file: 434)
DIALOG(R)File 434:SciSearch(R) Cited Ref Sci

05617815 Genuine Article#: SD416 Number of References: 31
Title: FLOW BEHAVIOR OF LIQUID WHOLE EGG DURING **THERMAL TREATMENTS**
Author(s): HAMIDSAMIMI M; **SWARTZEL KR**; BALL HR
Corporate Source: N CAROLINA STATE UNIV,DEPT FOOD SCI & BIOL & AGR ENGN/RALEIGH//NC/27650
Journal: JOURNAL OF FOOD SCIENCE, 1984, V49, N1, P132-136
Language: ENGLISH Document Type: ARTICLE

10/3,AB/6 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14763757 PASCAL No.: 00-0442353
Drying kinetics of blanched and unblanched mushrooms
SAHBAZ F; UZMAN D; **PALAZOGLU T K**
Hacettepe University, Department of Food Engineering, Beytepe, Ankara, Turkey; North Carolina State University, Food Science Department, Raleigh, NC, United States
Journal: Nahrung, 2000, 44 (4) 283-284
Language: English

10/3,AB/7 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014735574
WPI Acc No: 2002-556278/200259
Related WPI Acc No: 1995-169976
XRAM Acc No: C02-157673
Pasteurization of flowable egg product in pasteurizing apparatus involves heating the egg product in a conduit to specified temperature by subjecting the egg product to high frequency radio waves
Patent Assignee: MICHAEL FOODS INC (MICH-N); UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: BALL H R; HAMID-SAMIMI M; **SWARTZEL K R**
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6406727	B1	20020618	US 93139185	A	19931019	200259	B
			US 94323770	A	19941017		

Priority Applications (No Type Date): US 94323770 A 19941017; US 93139185 A 19931019
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6406727	B1		10	A23L-001/32	CIP of application US 93139185

CIP of patent US 5612076

Abstract (Basic): US 6406727 B1

Abstract (Basic):

NOVELTY - Pasteurizing flowable egg product, comprising passing the egg product continuously through a conduit transparent to high frequency radio waves, heating the egg product in the conduit to a predetermined temperature above 50 degrees C by subjecting the egg product to high frequency radio waves, and holding at the predetermined temperature for a predetermined time, is new.

DETAILED DESCRIPTION - Pasteurizing a flowable egg product while passing the product as a continuous stream through a pasteurizing apparatus, comprising:

(a) passing the egg product continuously through a conduit transparent to high frequency radio waves;

(b) heating the egg product in the conduit to a predetermined temperature above 50 degrees C by subjecting the egg product to high frequency radio waves; and

(c) holding the egg product at the predetermined temperature for a predetermined time.

The product receives a total **thermal treatment** to pasteurize the egg product without coagulation.

USE - For pasteurizing a flowable egg product, e.g. liquid egg products, pre-packaged liquid egg products and shell eggs.

ADVANTAGE - The inventive method utilizes high frequency radio waves to produce heat within the products being treated, thus causing microbial destruction without loss of product functionality and yielding reduced or eliminated product deposition on surfaces in direct contact with the egg product.

DESCRIPTION OF DRAWING(S) - The drawing schematically illustrates a continuous flow apparatus for carrying out the pasteurization method.

pp; 10 DwgNo 1/2

10/3,AB/8 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013844664

WPI Acc No: 2001-328877/200134

XRAM Acc No: C01-100943

Thermal gelation of foods and biomaterials using rapid heating to certain predetermined real temperature

Patent Assignee: IND MICROWAVE SYSTEMS (INMI-N); UNIV NORTH CAROLINA STATE (UYNC-N); IND MICROWAVE SYSTEMS INC (INMI-N)

Inventor: DROZD J M; LANIER T; RIEMANN A; **SIMUNOVIC J**; **SWARTZEL K R**; REIMANN A

Number of Countries: 095 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200133978	A1	20010517	WO 2000US31171	A	20001113	200134	B
AU 200117636	A	20010606	AU 200117636	A	20001113	200152	
EP 1233683	A1	20020828	EP 2000980365	A	20001113	200264	
			WO 2000US31171	A	20001113		
MX 2002004803	A1	20031101	WO 2000US31171	A	20001113	200468	
			MX 20024803	A	20020513		

Priority Applications (No Type Date): US 99164869 P 19991112; US 99164868 P 19991112

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
WO 200133978 A1 E 30 A23L-003/00
Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
AU 200117636 A A23L-003/00 Based on patent WO 200133978
EP 1233683 A1 E A23L-003/00 Based on patent WO 200133978
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
MX 2002004803 A1 A23L-003/00 Based on patent WO 200133978

Abstract (Basic): WO 200133978 A1
Abstract (Basic):

NOVELTY - The method is carried out by heating the material to a predetermined real temperature. The total **thermal treatment** of the material is described by an equivalent temperature and time defining a point above the minimum gel set temperature line. The point is preferably above a reduction in bacteria line and below a water loss line and/or a maximum desired gel texture temperature line.

DETAILED DESCRIPTION - The method is carried out by heating the material to a predetermined real temperature. The total **thermal treatment** of the material is described by an equivalent temperature and time defining a point above the minimum gel set temperature line.

The point is preferably above a reduction in bacteria line and below a water loss line and/or a maximum desired gel texture temperature line.

It is possible to heat the material to a predetermined real temperature from a time A to time B to attain material property at a certain shear level and then the material is heated to a predetermined real temperature from time B to time C to attain at least one additional material property at another shear stress level.

USE - For thermal gelation of foods and biomaterials.

ADVANTAGE - Higher temperatures and shorter treatment times are achieved. The resulting product is safer and has a longer shelf life and same or better texture.

DESCRIPTION OF DRAWING(S) - The drawing shows a microwave cavity.

pp; 30 DwgNo 1A/6

10/3,AB/9 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010268721
WPI Acc No: 1995-169976/199522
Related WPI Acc No: 2002-556278
XRAM Acc No: C95-078989
XRPX Acc No: N95-133274
Pasteurising egg product - by heating using high frequency radio waves
Patent Assignee: MICHAEL FOODS INC (MICH-N); MICHAEL FOODS (MICH-N); UNIV NORTH CAROLINA STATE (UYNC-N); UNIV NORTH CAROLINA (UYNC-N)
Inventor: BALL H R; HAMID-SAMIMI M H; **SWARTZEL K D**; SAMIMI M H; **SWARTZEL K R**; HAMID-SAMIMI M; BALL H
Number of Countries: 059 Number of Patents: 004
Patent Family:
Patent No Kind Date Applicat No Kind Date Week

WO 9510943	A1	19950427	WO 94US11935	A	19941019	199522	B
AU 9480843	A	19950508	AU 9480843	A	19941019	199533	
US 5612076	A	19970318	US 93139185	A	19931019	199717	
US 6406727	B1	20020618	US 93139185	A	19931019	200259	
			US 94323770	A	19941017		

Priority Applications (No Type Date): US 94323770 A 19941017; US 93139185 A 19931019

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9510943	A1	E	33	A23B-005/01	
	Designated States (National): AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA US UZ VN				
	Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ				
AU 9480843	A			A23B-005/01	Based on patent WO 9510943
US 5612076	A		5	A23L-001/32	
US 6406727	B1		10	A23L-001/32	CIP of application US 93139185 CIP of patent US 5612076

Abstract (Basic): WO 9510943 A

Egg product is pasteurised by subjecting the product to high frequency radio waves (13) to heat it to a predetermined temperature, and holding the product (20) at that temperature for sufficient time to pasteurise the product without coagulation.

Also claimed is the process where the product is conveyed along a path while being exposed to the radio waves and subsequently holding the product for a predetermined time, and the latter process wherein the product is a flowable egg product which is conveyed through a radio wave transparent conduit for exposure.

The egg product may be pre-heated (12) to 140-155 deg. F prior to the rf heating step which takes place at a frequency of 15-150 MHz. Shell eggs may be transported in a liquid medium. The product may be packaged before or after treatment.

USE - In the ultra-pasteurisation of products such as whole egg, fortified whole egg, mixtures of egg with salt, sugar, syrup, dextrose, dextrins, gums, milk solids, vegetable oil, reduced cholesterol egg and custard blends.

ADVANTAGE - Provides uniform heating without adding water, as in steam heating, and without fouling of heating surfaces.

Dwg.1/2

Abstract (Equivalent): US 5612076 A

A method of pasteurizing a flowable egg product while passing the product as a continuous stream through a pasteurizing apparatus, comprising:

passing said flowable egg product continuously through a conduit transparent to high frequency radio waves, wherein said flowable egg product comprises shell eggs in a liquid medium; and

heating said flowable egg product in said conduit to a predetermined temperature by subjecting said egg product to high frequency radio waves; and then

holding said flowable egg product at said predetermined temperature for a predetermined time to provide a total **thermal treatment** to said egg product;

wherein the total **thermal treatment** of said product is sufficient to pasteurize said egg product without coagulation thereof, and wherein said high frequency radio waves are in the frequency range from about 15 MHz to 150 MHz.

Dwg.0/1

10/3,AB/10 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009642927
WPI Acc No: 1993-336476/199342
XRAM Acc No: C93-148804
Pasteurisation of liquid whole egg products - by continuous flow through electroconductive heating cells each heated by specified temp. increments
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: PALANIAPPAN S; **SWARTZEL K R**
Number of Countries: 042 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9319620	A1	19931014	WO 93US2809	A	19930324	199342	B
AU 9339354	A	19931108	AU 9339354	A	19930324	199408	
US 5670199	A	19970923	US 92862862	A	19920403	199744	
			US 95370228	A	19950109		
			US 96686509	A	19960726		

Priority Applications (No Type Date): US 92862862 A 19920403; US 95370228 A 19950109; US 96686509 A 19960726
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9319620	A1	E	37	A23L-001/025	
Designated States (National): AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US VN					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE					
AU 9339354	A			A23L-001/025	Based on patent WO 9319620
US 5670199	A		12	A23L-001/32	Cont of application US 92862862
					Cont of application US 95370228

Abstract (Basic): WO 9319620 A
Pasteurisation of liquid whole egg on a continuous basis by initial warming followed by heating by an increment of not more than 10 deg.C in a first electroconductive heating cell. After heating in the first electroconductive cell, the liquid whole egg is raised in temperature by a further increment of not more than 10 deg.C in a second electroconductive cell. The liquid egg is subjected to periods of turbulence during the electroconductive heating process.
ADVANTAGE- Provides a pasteurisation method for liquid egg products which exhibits decreased fouling of heated surfaces and extended running times. The apparatus of the invention is suitable for the pasteurisation of liquid products with particle sizes less than about 2 mn and the temperature to which the liquid egg is heated may be accurately controlled
Dwg.0/5
Abstract (Equivalent): US 5670199 A
A process of ultra-pasteurizing a liquid whole egg product, comprises: (i) passing the liquid whole egg product as a continuous product stream through a pasteurizing apparatus; and (ii) heating the product stream to a first temperature of at least 40 deg. C by contacting the product stream to a heated surface; and then (iii) heating the product stream to a second temperature higher than the first temperature in an electroconductive heater containing an alternating current electrical heating means for providing an electrical voltage and current to the product stream in it, where the

second temperature is not more than 15 deg. C higher than the first temperature; and then (iv) holding the product stream for a holding time at least sufficient to provide a total **thermal treatment** to the liquid whole egg product sufficient to pasteurize the product; and then (v) aseptically packaging the liquid whole egg product to provide a packaged liquid whole egg product having a shelf life of four to thirty-six weeks under refrigerated conditions.

The electroconductive heater is controlled to compensate for conductivity changes in the liquid whole egg product caused by heating to thereby control the rate of temperature change of the liquid whole egg product. The electroconductive heater is capable of compensating for changes in the conductivity of the liquid whole egg product in it of up to about 4 siemens/meter.

Dwg.0/5

10/3,AB/11 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008673471
WPI Acc No: 1991-177492/199124
Related WPI Acc No: 1989-084985; 1990-304566; 1991-072878
XRAM Acc No: C91-076616

Ultra-pasteurisation of liq. whole egg prod. - by heat treatment, providing 99.9999999 per cent Salmonella content redn.

Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: BALL H R; HAMID-SAMIMI M; **SWARTZEL K R**; SAMIMI M H H

Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5019408	A	19910528	US 90628716	A	19901217	199124	B
US 37225	E	20010612	US 86904744	A	19860908	200135	
			US 89311594	A	19890216		
			US 90535718	A	19900611		
			US 90628716	A	19901217		
			US 92880899	A	19920508		
			US 9361985	A	19930514		

Priority Applications (No Type Date): US 90628716 A 19901217; US 86904744 A 19860908; US 89311594 A 19890216; US 90535718 A 19900611; US 92880899 A 19920508; US 9361985 A 19930514
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5019408	A		14		
US 37225	E			A23L-001/32	Cont of application US 86904744
					Cont of application US 89311594
					Cont of application US 90535718
					Cont of application US 92880899
					Cont of patent US 4808425
					Cont of patent US 4957759
					Cont of patent US 4994291
					Reissue of patent US 5019408

Abstract (Basic): US 5019408 A

A liq. whole egg prod. is ultra-pasteurised by passing it as a continuous stream through an appts. in which it is heated to a predetermined temp. by contact with a heated surface. This temp. is maintained for a predetermined holding time before cooling. The **thermal treatment** should be more than sufficient to

pasteurise the whole liq. egg prod. to provide a 99.9999999% redn. of Salmonella in the prod. However, it should be insufficient to cause coagulation. The pasteurised prod. is aseptically packaged and has a refrigerated shelf life of 4 to 36 weeks.

Pref. the whole pasteurising appts. is sterilised before the liq. whole egg stream is passed through. Pref. the liq. egg is subjected to turbulence for a major portion of the time during which it is subjected to the heat treatment. The liq. egg is pref. dispersed prior to passage through the heat treatment section of the appts. The liq. whole egg prod. may be either liq. whole egg or a liq. whole egg blend contg. 24-38% egg solids and 12% or less of added non-egg ingredients.

USE/ADVANTAGE - The liquid whole egg prod. have a wide range of uses and an extended refrigerated shelf life.

Dwg.0/5

10/3,AB/12 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008367338
WPI Acc No: 1990-254339/199034
XRPX Acc No: N90-197126

Thermal history determining method for e.g. food particle - exposing object carrying calibration materials to **thermal treatment** and calculating equivalent point of treatment from detected changes

Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N); UNIV CALIFORNIA (REGC)

Inventor: GANESAN S G; HAMAKER R W; KUEHN R T; SADEGHI F; **SWARTZEL K R**

Number of Countries: 017 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
AU 8947029	A	19900628	AU 8947029	A	19891221	199034	B
EP 382980	A	19900822	EP 89313457	A	19891221	199034	
CA 2006043	A	19900622				199036	
JP 2290520	A	19901130				199103	
US 5021981	A	19910604	US 88289358	A	19881222	199125	
US 5159564	A	19921027	US 88289358	A	19881222	199246	
			US 91709718	A	19910603		
AU 635911	B	19930408	AU 8947029	A	19891221	199321	
EP 382980	B1	19940615	EP 89313457	A	19891221	199423	
DE 68916229	E	19940721	DE 616229	A	19891221	199429	
			EP 89313457	A	19891221		

Priority Applications (No Type Date): US 88289358 A 19881222; US 91709718 A 19910603

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 382980	A				
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
US 5159564	A		20	G01K-005/00	Cont of application US 88289358
					Cont of patent US 5021981
AU 635911	B			G01K-003/04	patent AU 8947029
EP 382980	B1	E	28	G01K-003/04	
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE					
DE 68916229	E			G01K-003/04	Based on patent EP 382980

Abstract (Basic): AU 8947029 A

The method includes the steps of exposing an object to a

thermal treatment, the object being carrying at least two calibration materials, detecting the change in each of calibration materials caused by the **thermal treatment** and then calculating the equivalent point of the **thermal treatment** from the detected changes.

The calculating step involves determining the product constituent relationship for each of the calibration materials based upon the detected changes in each of the calibration materials caused by the **thermal treatment**. The product constituent relationships are interpolated for each of the calibration materials to obtain a range of product constituent relationships versus activation energy. The equivalent point of the **thermal treatment** is obtained from the product constituent versus activation energy relationships.

ADVANTAGE - Provision of accurate and repeatable integration of thermal history. (48pp Dwg.No.1,2/12

Abstract (Equivalent): EP 382980 B

A method for determining the thermal history of an object, wherein said object carries a thermal memory cell (20),k said object is exposed to a **thermal treatment** while carrying said thermal memory cell, and said thermal history is determined by detecting changes in said thermal memory cell and then calculating the thermal history of said object from the detected changes, said thermal memory cell (20) carries at least two thermal calibration materials (22A, 22B, 22C) having different activation energies, and said detecting step comprises detecting the change in each of said thermal calibration materials, said method characterized in that: said calculating step comprises calculating the equivalent point of said **thermal treatment** from said detected changes.

Dwg.1/12

Abstract (Equivalent): US 5159564 A

The method for determining the thermal history of an object having at least two thermal calibration materials with different activation energies, comprises of exposing an object to a **thermal treatment** and detecting the change in each of the calibration materials caused by the **thermal treatment**. The **thermal** history of the **thermal treatment** is determined from the detected changes. The thermal history recorder comprises one or more metal insulator semiconductor (MIS) capacitors. The insulating layer is non-uniformly doped with mboile chatged carriers. Two or more MIS capacitors, each having different activation energies, may be mounted in a common support structure to provide a thermal memory cell. USE/ADVANTAGE - Determining thermal history of objects, for e.g. food, chemical, pharmaceutical industries, obtains complete characterisation of any thermal process.

(9a,10/12c

US 5021981 A

The thermal history determination method comprises the steps of placing in the object, at least two thermal calibration materials having different activation energies.

The object is exposed to a **thermal treatment** and the change in each of the calibration materials caused by the **thermal treatment** is detected. An equivalent point of the **thermal treatment** from the detected changes is then calculated. ADVANTAGE - High accuracy.

(19pp

13/3,AB/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014334574
WPI Acc No: 2002-155277/200220
XRAM Acc No: C02-048616
XRPX Acc No: N02-118044
Reduction of moisture content of agricultural commodity, such as peanuts, comprises passing commodity through microwave energy, and controlling moisture content based on temperature characteristic(s)
Patent Assignee: IND MICROWAVE SYSTEMS (INMI-N); UNIV NORTH CAROLINA STATE (UYNC-N); US DEPT OF AGRICULTURE (USDA); DROZD J M (DROZ-I); HENDRIX K (HEND-I); SANDERS T H (SAND-I); SIMUNOVIC J (SIMU-I); SWARTZEL K R (SWAR-I)
Inventor: DROZD J M; HENDRIX K; SANDERS T H; **SIMUNOVIC J**; **SWARTZEL K R**
Number of Countries: 096 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200208678	A1	20020131	WO 2001US23305	A	20010725	200220	B
AU 200180741	A	20020205	AU 200180741	A	20010725	200236	
US 20040081730	A1	20040429	WO 2001US23305	A	20010725	200429	
			US 2003333584	A	20031031		

Priority Applications (No Type Date): US 2000220650 P 20000725; US 2003333584 A 20031031
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200208678	A1	E	25	F26B-003/34	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200180741	A		F26B-003/34	Based on patent WO 200208678
US 20040081730	A1		A23L-003/00	

Abstract (Basic): WO 200208678 A1
Abstract (Basic):
NOVELTY - The moisture content of an agricultural commodity (20) is reduced by generating microwave energy into an exposure region. The commodity is passed through the energy. A temperature characteristic(s) of the commodity is sensed. The moisture content is controlled based on the temperature characteristic(s).
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method of separating a skin layer from the core of an agricultural commodity comprises:
(1) generating microwave energy into an exposure region;
(2) passing an agricultural commodity with a skin through the microwave energy;
(3) sensing at least one temperature characteristic of the agricultural commodity; and
(4) controlling the temperature of the agricultural commodity and electromagnetic exposure time based upon the separation of the skin of the agricultural commodity.
USE - The method is used for reducing moisture content of agricultural commodities, e.g. peanuts, almonds, walnuts, hazelnuts, pecans, cashews, grains, herbs or spices.
ADVANTAGE - The method removes moisture at a higher rate from high

moisture portions of the commodity, which equalize and improve the processing and storage characteristics of the commodity.

DESCRIPTION OF DRAWING(S) - The figure shows a microwave exposure chamber for processing agricultural commodities.

Agricultural commodity (20)

pp; 25 DwgNo 1/9

13/3,AB/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008568843
WPI Acc No: 1991-072878/199110
Related WPI Acc No: 1989-084985; 1990-304566; 1991-177492
XRAM Acc No: C91-043924

Ultra-pasteurisation of liq. whole egg - by continuous flow, high temp., short term treatment giving extended refrigerated shelf life

Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: BALL H R; HAMIDSAMIM M H; **SWARTZEL K R**; HAMID-SAMIMI M
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4994291	A	19910219	US 90535718	A	19900611	199110	B
US 4994291	B1	20000321	US 86904744	A	19860908	200021	
			US 89311594	A	19890216		
			US 90535718	A	19900611		

Priority Applications (No Type Date): US 90535718 A 19900611; US 86904744 A 19860908; US 89311594 A 19890216
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4994291	A		14		
US 4994291	B1			A23L-003/00	Cont of application US 86904744 Cont of application US 89311594 Cont of patent US 4808425 Cont of patent US 4957759

Abstract (Basic): US 4994291 A

Liq. whole egg is ultrapasteurised by passing it as a continuous stream through a pasteurising appts.. In the appts. the egg is heated to a predetermined temp., by contact with a heated surface, for a time such that the egg does not coagulate but is above the 5% soluble protein loss (BATCH) line.

The liq. whole egg is homogenised after it is heated. The liq. whole egg is aseptically packaged. During the heating the liq. egg is kept at a predetermined holding temp. for a predetermined holding time, and is then cooled. The continuous stream is (periodically) subjected to turbulence during the heating, esp. for the majority of the time. The egg may be dispersed before the heating.

USE/ADVANTAGE - The treated egg prods. have good functional properties and extended refrigerated shelf lives (4-36 weeks, esp. 8-36 weeks).

Dwg.0/5

13/3,AB/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008417565
WPI Acc No: 1990-304566/199040
Related WPI Acc No: 1989-084985; 1991-072878; 1991-177492
XRAM Acc No: C90-131536
Ultrapasteurisation of liq. egg prods. in continuous flow - in which liq. egg is heated to predetermined real temp. for predetermined time chosen to impart the preselected shelf life
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: BALL H R; HAMIDSAMIM M H; **SWARTZEL K R**; HAMID-SAMIMI M
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4957759	A	19900918	US 86904744	A	19860908	199040	B
			US 89311594	A	19890216		
US 4957759	B1	20000229	US 86904744	A	19860908	200018	
			US 89311594	A	19890216		

Priority Applications (No Type Date): US 89311594 A 19890216; US 86904744 A 19860908
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4957759	A		13		Cont of application US 86904744
US 4957759	B1			A23L-003/00	Cont of application US 86904744
					Cont of patent US 4808425

Abstract (Basic): US 4957759 A
Ultrapasteurisation of liq. egg prods. in continuous flow during which the liq. is heated to a predetermined real temp. for a predetermined time. The predetermined time and temp. are chosen to impart the preselected shelf life to the liq. whole egg prod.. After heating the prod. is aseptically packaged.
USE/ADVANTAGE - Ultrapasteurisation of liq. whole egg prods. for refrigerated distribution which have greatly reduced levels of spoilage microorganisms, while still having good functional properties.
Dwg.0/5

13/3,AB/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008387891
WPI Acc No: 1990-274892/199036
XRAM Acc No: C90-118789
Ultra-pasteurisation of liq. whole egg prods. - by preheating, steam heating, cooling and packaging
Patent Assignee: NORTH CAROLINA STAT (UYNC-N); SWARTZEL K R (SWAR-I)
Inventor: BALL H R; LIEBRECHT J W; **SWARTZEL K R**
Number of Countries: 016 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9009109	A	19900823				199036	B
US 4957760	A	19900918	US 89312066	A	19890216	199040	
CA 2009429	A	19900816				199044	
EP 414856	A	19910306	EP 90903271	A	19900130	199110	
JP 3502527	W	19910613	JP 90503437	A	19900130	199130	
EP 414856	A4	19921007	EP 90903271	A	19900000	199523	

Priority Applications (No Type Date): US 89312066 A 19890216
Patent Details:

Patent No Kind Lan Pg   Main IPC   Filing Notes
WO 9009109   A
   Designated States (National): JP
   Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL SE
EP 414856   A
   Designated States (Regional): AT BE CH DE FR GB IT LI LU

Abstract (Basic): WO 9009109 A

Liq. whole egg prod. (I) is ultrapasteurized while it is passed as a continuous stream through a pasteurizing appts. as follows: (a) (I) is heated to a predetermined temp. (T1; at least 136 deg.F); (b) (I) is then kept at T1 for a predetermined time; (c) the prod. is then heated by not more than 20 deg.F to a 2nd predetermined temp. (T2) by contact with steam; (d) (I) is kept at temp. T2 for long enough to effect a 9-log cycle redn. of Listeria monocytogenes in the prod.; and (e) (I) is cooled and aseptically packaged to give a prod. having a shelf-life at least 4 weeks under refrigerated conditions.

ADVANTAGE - The continuous ultrapasteurization is relatively simple to regulate, affords prods. of controlled viscosity, and causes decreased fouling of surfaces with extended run times. In addn., the prod. has extended shelf-life under refrigerated conditions. (50pp Dwg.No.0/0)

Abstract (Equivalent): US 4957760 A

A method of ultrapasteurising a liq. whole egg prod. while passing it as a continuous stream comprises heating the prod. and maintaining its temp. for a set time before heating it to a second higher temp. with steam. The prod. is maintained at the higher temp. for a set time sufficient to cause a nine logcycle reduction of histeria monocytogenes and then is cooled. The prod. is aseptically packaged and is not maintained at less than atmos. press. from the time it is heated to the second temp. to its packaging. ADVANTAGE - Improved run times and viscosity control are provided.

(13pp)

13/3,AB/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007819873
WPI Acc No: 1989-084985/198911
Related WPI Acc No: 1990-304566; 1991-072878; 1991-177492
XRAM Acc No: C89-037753
Ultra-pasteurisation of liq. whole egg without coagulation - by contacting continuous stream with heated surface for set time and homogenising at high pressure
Patent Assignee: UNIV NORTH CAROLINA STATE (UYNC-N)
Inventor: BALL H R; HAMIDSAMIM M H; SWARTZEL K R; HAMID-SAMIMI M
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4808425	A	19890228	US 86904744	A	19860908	198911	B
US 4808425	B1	20000530	US 86904744	A	19860908	200033	

Priority Applications (No Type Date): US 86904744 A 19860908
Patent Details:
Patent No Kind Lan Pg   Main IPC   Filing Notes
US 4808425   A   14
US 4808425   B1   A23B-005/005
Abstract (Basic): US 4808425 A

Liq. whole egg is ultrapasteurised as a continuous stream. This contacts a heated surface and is held at a high temp. for a preset time before being cooled. The total heat treatment received is at a point above the 5% SPL(BATCH) (Soluble Protein Loss) line but is insufficient to cause coagulation of the egg.

Pref. the egg is subjected to turbulence while it is heated at 1000 psi, and is subsequently homogenised before aseptic packaging.

USE/ADVANTAGE - The whole egg has a refrigerated shelf life of up to 36 weeks. The product has reduced levels of spoilage microorganisms and good functional properties.